LAND–9 VISUAL QUALITY ASSESSMENT

1.0 EXECUTIVE SUMMARY

This study assesses the visual compatibility of the Project facilities in relation to the surrounding landscapes based on the USDA-FS Visual Resource Management (VRM) classifications. The process to initiate the visual quality assessment includes reviewing USDA-FS guidance documents (VRM), the identification of Project facilities, identification of sensitive view sheds of Project facilities for the establishment of key observation points (KOPs), and collection of photographs from KOPs to document the visual character of Project facilities within the surrounding landscape. The assessment will utilize the VRM for analysis and incorporate existing Visual Quality Objectives (VQOs) and conditions from the current USDA–FS Land and Resource Management Plan (LRMP).

A comprehensive list of Project facilities was generated and used to identify potential photograph views from public view shed locations (i.e., recreation facilities, scenic overlooks, roadways, etc.). The USDA-FS VRM classifications and aesthetic goals for lands surrounding Project facilities were compiled from the Sierra National Forest Land (SNF) and Resource Management Plan (USDA-FS 1991). View sheds of Project facilities were defined as locations, where the public can easily view facilities in the surrounding landscape. View sheds were identified through consultation with stakeholders in the Land Management Working Group (LMWG), by site visits to the Project facilities, and field investigation of potential view sheds from public locations. Project facilities were subsequently photographed from locations identified as potential view sheds. KOPs, locations where the public can easily view Project facilities, were selected from the photographs of potential view sheds. Selection of KOPs was conducted in consultation with the LMWG. Thirty-three KOPs were selected for this assessment.

A subset of KOP locations was selected for use to assess the visual quality of Project lake and reservoirs at multiple water surface elevations. The LMWG identified Huntington Lake, Shaver Lake, Florence Lake, and Mammoth Pool, as areas where capacity related visual assessment would be conducted. Each of these reservoirs is being photographed at three general water surface elevations, high, intermediate, and low.

2.0 STUDY OBJECTIVES

Where appropriate, identify measures to improve the visual appearance of existing and proposed SCE Project facilities.

3.0 STUDY IMPLEMENTATION

3.1 STUDY ELEMENTS COMPLETED

- Review SNF Visual Resource Management (VRM) classifications;
- Visit and photograph Project facilities to determine sensitive view sheds;
- Select KOPs of Project facilities; and
- Determine Project facilities visual classifications.

3.2 OUTSTANDING STUDY ELEMENTS

- Collect remaining photographs for lake capacity related assessment;
- Determine if Project facilities contrast with the VRM classification for the surrounding landscape;
- Identify measures to improve visual quality of Project facilities; and
- Ensure that any proposed modifications to Project facilities are designed to be visually compatible with existing VRM classifications for immediately surrounding landscapes.

4.0 STUDY METHODOLOGY

4.1 VISUAL MANAGEMENT SYSTEM

The current Forest Land Management and Resource Plan (LMRP) (USDA-FS 1991) was written using the Visual Management System (VMS) (USDA-FS 1974) to describe aesthetic goals for forest lands. Components used in the VMS include variety classes, sensitivity levels, and distance zones. These components are described in the following paragraphs.

Variety classes measures the scenic quality of an area and are determined by classifying the physical features of a landscape. Three variety classes are defined as follows:

A. **Distinctive landscapes** where features of landform, vegetative patterns, water forms, and rock formations are of unusual or outstanding visual quality.

B. Pleasing but **common landscapes** where features contain variety in form, line, color, and texture or combinations thereof, but tend to be common throughout the character type and are not outstanding in visual quality.

C. **Minimal landscapes** whose features have little change in form, line, color, or texture. This class includes all areas not found under Classes A and B.

Sensitivity levels assess people's concern for scenic quality. Sensitive viewers are those traveling through, or permanently or temporarily occupying an area. VMS divides viewer sensitivity into three levels, as follows.

> **Level 1-High Sensitivity.** High sensitivity areas includes all views from: 1) primary roads, trails, and use sites; 2) primary areas of fishing, swimming, boating, and other active or passive recreation on or adjacent waterbodies; and 3) highly sensitive communities where much of the population is not directly associated with executing forest land management activities.
>
> **Level 2-Moderate Sensitivity.** Moderate sensitivity areas includes all views from: 1) secondary roads, trails, and use sites; 2) secondary areas of fishing, swimming, boating, and other active or passive recreation on or adjacent to waterbodies; 3) communities where a large portion of the population is directly related to performing forest land management activities; and 4) secondary summer home tracts. Level 2 does not include infrequently used travel routes and use areas.
>
> **Level 3-Low Sensitivity.** Low sensitivity areas includes all views from: 1) all county and forest road systems not in Levels 1 or 2; 2) secondary trail systems used primarily for fire protection and other administrative uses; and 3) secondary roads or use areas with only occasional use.

Distance zones incorporate the degree of discernible detail of a landscape and is divided into four zones: immediate foreground (0 to 300 feet), (0 to ½ mile); middleground (½ to 4 miles); background (4 miles to horizon).

The USDA-FS use these factors to assign Visual Quality Objectives that establish the visual management goals and policies for administration of public lands. Visual quality objectives designations include: Preservation, Retention, Partial Retention, Modification, Maximum Modification, and Undesignated.

4.2 IDENTIFICATION OF SENSITIVE VIEW SHEDS

The process to identify sensitive view sheds include identifying the Project facilities, identifying locations where the public can view project facilities and collecting photographs from these locations, compiling and cataloging photographs, and consulting with the LMWG to review photographs and select KOPs of the Project facilities.

A comprehensive list of Project facilities was used to guide fieldwork during the study. The Project facility list was used as a checklist to assure that all facilities would be evaluated for potential view sheds during the study. Fieldwork to photograph Project facilities was conducted from October 1 to October 5, 2001. Recreation facilities in the Big Creek ALP Study Area such as campgrounds, day use areas, boat ramps, vista points and roads were visited to identify and photograph potential view sheds of Project facilities. Project facilities behind SCE controlled gates, that restrict public access were also photographed. Field notes recorded the location, date, photo number, photo

direction, visible Project facilities, location description, and associated GPS location data. Photos were named, grouped and cataloged by Project number, and stored on compact disk.

Final KOP locations were selected in consultation with the LMWG. The LMWG reviewed the USDA-FS guidelines and criteria to determine sensitive view sheds and KOPS. Factors that were considered in the selection of KOPs included: duration of view when traveling past a facility, number or density of potential viewers from each KOP, an area's overall scenic quality, and the type of activity that an individual is conducting when viewing Project facilities (i.e., driving, boating, fishing, hiking, etc.). At the November 14, 2001, LMWG meeting, photographs were reviewed and photo points (locations where photographs were collected) were sorted into four types: (1) photo points to be kept as is; (2) photo points that needed to be retaken from a different location; (3) photo points that would be re-photographed at different lake levels; and (4) photo points not to use in the assessment. At the January 8, 2002, LMWG meeting, 33 photo points were selected as KOPs to use in the visual quality assessment. In addition, at a meeting on April 10, 2002, the LMWG confirmed 13 locations where photographs would be taken for lake capacity assessment at three lake levels, low/intermediate/high.

Lake capacity related visual assessment evaluates the visual effect of reservoir operations at recreation facilities. The LMWG selected three capacities when photos would be taken of four reservoirs (Huntington Lake, Florence Lake, Shaver Lake, and Mammoth Pool) from recreation facilities: high, intermediate, and low. These photos are presented along with water surface elevation exceedance curves for each reservoir over a calendar year. The recreation period between Memorial Day and Labor Day is marked on the graphs to indicate the water surface elevations recreationists are mostly likely to experience.

Historical elevation exceedance curves at 20, 50, and 80 percent were developed and graphed from mean daily reservoir water storage data for a period of record from 1980 and 2002 for each reservoir. Each graph shows seasonal variability in reservoir surface elevation over a calendar year.

The recreation period for the basin is generally between Memorial Day, in late May, to Labor Day in September. This is the period when the recreation facilities receive the greatest recreational use. The goal is to take photos at capacities representative of recreation experiences.

5.0 STUDY RESULTS

The visual quality assessment results are organized by a discussion of VQO classifications at the facilities and definitions, a discussion of each KOP and associated photographs, and a summary of the lake capacity visual assessment.

5.1 VQO CLASSIFICATIONS

The USDA-FS LMRP identifies three VQO classifications for lands within the Project area. These designations and their definitions are:

- Retention. Retention refers to landscapes where the valued landscape character "appears" intact. Deviations may be present but must repeat the form, line, color, texture, and pattern comment to the landscape character so completely and at such scale that they are not evident.
- Partial retention. Partial retention refers to landscapes where the valued landscape characters "appear slightly altered." Noticeable deviations must remain visually subordinate to the landscape character being viewed.
- Modification. Modification refers to landscapes where the valued landscape characters "appear moderately altered." Deviations begin to dominate the valued landscape character being viewed, but they borrow valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes or architectural styles outside the landscape being viewed.

Figure LAND-9-1 depicts the USDA-FS visual quality objectives in the Big Creek Basin.

5.2 KEY OBSERVATION POINTS

Thirty-three KOPs of Project facilities in the Big Creek Basin were selected for the visual quality assessment. The location of KOP's and the general coverage of VQO areas are summarized in Table LAND-9-1 and presented in Figure LAND-9-1. A brief description of the each KOP and associated photograph(s) organized by Project is provided below. Photographs of the view shed from each KOP are presented in Appendix A.

KOP 1, View of Huntington Lake looking southwest from Kaiser Pass Road

Photo 1 is southwest view of Huntington Lake from Kaiser Pass Road. This view is from the roadway traveling southwest toward Huntington Lake. This is a common view traveling on the Kaiser Pass Road, which provides access between Huntington Lake and the high Sierra.

KOP 2, View of Huntington Lake looking west from Rancheria Campground

Photo 2 is a view to the west from the campground looking out at Huntington Lake, which extends to the background. Rancheria Campground is located on the eastern shore of Huntington Lake.

KOP 3, View of Huntington Lake looking south from the Boat Launch

Photo 3a is the signage at the boat launch. Photo 3b is a view south from the boat launch.

KOP 4, View of Huntington Lake looking south from the Bear Cove Day Use Area

Photo 4 is a view of Huntington Lake looking south from the Bear Cove Day Use area. The ski runs at Sierra Summit are visible in the background.

KOP 5, View of Huntington Lake looking northeast from the Dowville Picnic Area

Photo 5a is a northeast view from the Dowville Picnic Area with Huntington Lake in the foreground and Dam 1 in the distant background. Photo 5b is a close-up view of Dam 1 from the picnic area.

KOP 6, View of Huntington Lake from Dam 3

Photo 6a is a view south of Dam 3 showing the back of the dam and adjacent vegetation. Photo 6b is a view south of Dam 3 showing the front of the dam and the walkway on the dam crest.

KOP 7, View of Huntington Lake from Huntington Lake boat launch

Photo 7a is the signage at the marina. The sign is covered in preparation for the winter season. Photo 7b is a view east at the launch ramp. This boat launch is located along the northwest shore of Huntington Lake.

KOP 8, View of Big Creek No. 1 penstocks from Huntington Lake Road

Photo 8a is a northeastern view of the Big Creek No. 1 penstocks from a turnout on Huntington Lake Road. The powerhouse is barely visible behind some trees in the middleground and the penstocks can be seen in the background. Photo 8b is a view of the Big Creek No. 1 switchyard to the north from the same location. Photo 8c is a view of Big Creek No. 1 powerhouse north from Huntington Lake Road.

KOP 9, View of Powerhouses 2 and 2A, and the Big Creek No. 2 switchyard from Canyon Road

Photo 9a is a view of the powerhouses at Big Creek No. 2 and 2A east from Canyon Road (8S05). Photo 9b is a view of the switchyard at the Big Creek No. 2 powerhouse to the northeast of Canyon Road. Canyon Road (8S05) is controlled by SCE and not open to public vehicular traffic.

KOP 10, View of Lake Edison and Portal Forebay from White Bark Vista

Photo 10a is a view northeast from White Bark Vista looking at the SCE microwave site (non–Project facility). Photo 10b is a view from the vista point east toward portions of the Ansel Adams Wilderness. Portal Forebay is visible in the foreground and Lake Thomas Edison is visible in the background. Photo 10c is a view east of the vista point focused on Portal Forebay.

KOP11, View of Florence Lake Dam looking east from Florence Lake Picnic Area

Photo 11 is a view across Florence Lake looking east from the Florence Lake Picnic Area. Florence Lake Dam is barely visible, where the lake transitions to land in the distance.

KOP 12, View of Florence Lake Dam from Florence Lake boat ramp

Photos 12a and 12b are views southeast from the Florence Lake Boat Ramp looking at Florence Lake and Dam. This early October photo shows the low lake level, Florence Lake Dam, and parts of the lake bottom.

KOP 13, View of Mono Bear Siphon from Kaiser Pass Road

Photos 13a and 13b are views of the Mono Bear Siphon looking south from Kaiser Pass Road over the San Joaquin River.

KOP 14, View of Shaver Lake from Shaver Lake boat launch

Photo 14a and 14b are southwest and south views from the Shaver Lake boat launch, respectively. The boat launch is visible in the foreground and Shaver Lake Dam is visible in the distant background. Photo 14c is a view west from the parking area at the boat launch looking at Shaver Lake and Dam.

KOP 15, View of Shaver Lake Dam from Shaver dam turnout

Photo 15a and 15b are views of Shaver Lake and Dam looking south from the Shaver Lake Dam turnout.

KOP 16, View of Shaver Lake from Shaver Lake Point

Photo 16a is the signage at Shaver Lake Point. Photo 16b is a northeast view from the point showing the shore and boat rental facilities. Photo 16c is a view east from the Shaver Lake Point of Shaver Lake. This vista point provides a wide vista of Shaver Lake and the surrounding mountains in the background.

KOP 17, View of Shaver Lake from the Camp Edison Boat Ramp

Photo 17a and 17b are views of Shaver Lake looking northwest and northeast from the Camp Edison boat ramp, respectively. Photo 17a shows a wide vista from the Shaver Lake Boat Ramp and background mountains to the north. Photo 17b shows the marina northeast of the boat ramp.

KOP 18, View of Big Creek No. 8 Powerhouse and Dam 6 looking south from 8S03

Photo 18 is a view of Big Creek No. 8 powerhouse and Dam 6 looking south from Forest Route 8S03. It shows the Big Creek No. 8 powerhouse and penstocks extending above. Dam 6 is visible beyond powerhouse 8 in the shadows. Access to Forest Route

8S03 between Mammoth Powerhouse and Big Creek No. 8 is controlled by SCE and is not open to public vehicular traffic.

KOP 19, View of Balsam Meadows Forebay and Dam from Balsam Meadows Forebay Day Use Area

Photo 19a is a northeast view of the forebay and the forebay dam. Photo 19b is a northeast view of the inlet structure at the forebay. Photo 19c is a northwest view across the forebay and the outlet structure on the opposite shore. Fencing adjacent to the inlet is visible to the left of the photo. Photo 19d is a northeast view of the secondary dam with the main forebay dam visible to the left.

KOP 20, View of Eastwood tailrace and Shaver Lake looking east from Eagle Point Picnic Area

Photo 20 is a view of the Eastwood tailrace looking east from the boat in picnic area. The view is representative of public views of the tailrace from Shaver Lake.

KOP 21, View of Eastwood tailrace looking north from Fishing Club

The Fishing Club is a private club located on the opposite shore from the Eastwood tailrace. This view is representative of public views of the tailrace from Shaver Lake. Photo 21 is a view of the Eastwood tailrace looking north from the shore of the Fishing Club.

KOP 22, Views from Mushroom Rock

Photo 22a is a view of Balsam Meadows Forebay looking south from Mushroom Rock Vista. Photo 22b is a view of both Balsam Meadows Forebay (left) and part of Shaver Lake (right) looking south from Mushroom Rock Vista. Photo 22c is of Balsam Forebay looking south from Mushroom Rock.

KOP 23, Bear Diversion from concrete crane pad

Photo 23a is a view of the Bear Creek Diversion forebay looking north from the crane pad at the diversion dam. Photo 23b is a view of the diversion forebay, dam, and walkway looking east from the crane pad. Photo 23c is a view of the forebay looking north from the walkway on the top of the diversion dam.

KOP 25, Big Creek No. 3 powerhouse (photo to be taken in 2003)

KOP 26, View of Mammoth Pool north east of Minarets Road

Photo 26 is a view of Mammoth Pool Dam and Reservoir looking northeast from Minarets Road. The upper San Joaquin River watershed is visible in the background.

KOP 27, View of Mammoth Pool from Mile High Vista Point

Photo 27 is a view of the Mammoth Pool Reservoir looking northeast from Mile High Vista. The view of the reservoir is mostly screened by vegetation.

KOP 28, View of Mammoth Pool from Windy Point Picnic Area

Photos 28a and 28b are views of Mammoth Pool looking northeast and southeast from the picnic area, respectively. Photo 28a is a view upstream towards the San Joaquin River. Photo 28b is a view of Mammoth Pool and dam in the distance to the southeast.

KOP 29, View of Mammoth Pool boat ramp from parking area

Photo 29a is a view of signage at the boat ramp. Photo 29b is a southeast view of the boat ramp from the boat ramp parking area. Photo 29c is a view of the reservoir to the southeast from the boat ramp. Photo 29d is a view of the reservoir and dam looking southeast from the boat ramp parking area.

KOP 30, View of Mammoth Pool to Big Creek No. 3 transmission line southeast from Mammoth Pool Powerhouse Road

Photo 30 is a view of the Mammoth Pool-Big Creek No. 3 transmission line looking southeast from the Forest Route 8S03, which accesses the Mammoth Pool powerhouse. Other portions of Forest Route 8S03 are visible running parallel to the San Joaquin River below.

KOP 31, View of Mammoth Pool penstock from Canyon Road between Big Creek No. 2/2A and Big Creek No. 8

Photo 31 is a northwest view from the Canyon Road, between Big Creek No. 2/2A and Big Creek No. 8, of the Mammoth Pool penstocks and part of the Mammoth Pool-Big Creek No. 3 transmission line. Canyon Road is not open to general public vehicular traffic.

KOP 32, View of Mammoth Pool penstock, Big Creek No. 8 powerhouse, and Mammoth Pool-Big Creek No. 3 transmission line south east Forest Route 8S03

Photo 32 is a view of the Mammoth Pool powerhouse penstock, Big Creek No. 8 powerhouse, and Mammoth Pool-Big Creek No. 3 transmission line looking southeast from Forest Route 8S03. The penstock is visible at the lower right. The Big Creek No. 8 powerhouse is visible in the middleground and the transmission line extends across the center of the photo.

KOP 33, View of Mammoth Pool powerhouse and penstock from Forest Route 8S03

Photo 33 is a view of the Mammoth Pool powerhouse and penstock looking southeast from the Forest Route 8S03.

5.3 LAKE CAPACITY RELATED VISUAL ASSESSMENT

The LMWG selected locations at lakes with a high concentration of recreationists to conduct visual assessments at three different lake capacities: high, intermediate, and low. Photographs were taken at Huntington Lake, Florence Lake, Shaver Lake, and Mammoth Pool. The historical elevation exceedance period of record (POR) spanned between 1980 and 2002. Some photographs for these assessments remain to be taken in 2003. Table LAND-9-2 indicates locations, capacities, and time periods for capacity related visual assessment photography.

5.3.1 HUNTINGTON LAKE

At Huntington Lake, high capacity photos were taken from four locations at near the lake (Appendix B) with the water surface elevation of 6,943 feet. The historical elevation exceedance curves for Huntington Lake show that the reservoir is typically low during the spring and high during the recreation period. The elevation of the photograph is marked on the historical exceedance graph as a gray line. This high elevation at Huntington Lake would be visible in June during normal and dry water years. In wet years, the reservoir would reach this elevation earlier in the year and before the recreation period start. As the reservoir surface elevation drops in the fall, the same elevation would occur in October and November, well outside of the recreation period, regardless of water year type. Intermediate and low capacity photos at Huntington Lake will be taken during 2003.

5.3.2 FLORENCE LAKE

Lake capacity photos were taken at two locations at Florence Lake and at high and low capacities (Appendix C). High capacity photos were taken at a water surface elevation of 7,324 feet and low capacity photos were taken with the water surface elevation at 7,261 feet. The historical elevation exceedance curves show that Florence Lake water surface elevation is typically low in the spring and fall and changes rapidly. The high lake capacity photo was taken at a water surface elevation visible during mid-June to early August of a wet water year (20 percent). This elevation is not typically visible in normal to dry years at Florence Lake. The low lake capacity photo was taken with the water surface capacity at 7,261 feet, which generally occur in the spring and fall. In normal to wet years, this elevation would be visible only during months well outside of the recreation period. In dry years, it is possible that the low capacity elevation would be visible near the very beginning and end of the recreation period.

5.3.3 SHAVER LAKE

At Shaver Lake, lake capacity photos have been taken at three out of the four locations at high capacity (Appendix D). High capacity photos were taken with the water surface elevation at 5,365 feet. Historical elevation exceedance curves of Shaver Lake show that low reservoir elevations typically occur in the spring and fall and high elevations typically occur in the summer. The water surface elevation captured in the high capacity

photos would generally be visible during June and early July in wet to normal water years. Intermediate and low capacity photos at Shaver Lake will be taken during 2003.

5.3.4 MAMMOTH POOL

Lake capacity photos for visual assessment were taken at three locations at or near Mammoth Pool: near Mile High Vista, Windy Point Picnic Area, and Mammoth Pool Boat Ramp (Appendix E). Near Mile High Vista all three capacity photos have been taken. At the two locations at Mammoth Pool, low capacity photos have been taken from all locations and high capacity photos have been taken from nearly all locations. High capacity photos were taken with the water surface elevation at 3,315 feet and low capacity photos were taken at 3,194 feet. Intermediate capacity photos were taken near Mile High Vista at a water surface elevation of 3,250 feet. The historical elevation exceedance curves for Mammoth Pool indicate that low reservoir capacity generally occurs during spring and fall with high capacity occurring generally during the recreation period.

Photos taken Near Mile High Vista captured all three lake capacities. The water surface elevation associated with high capacity would be visible over a longer period during the recreation period in dry water years (80 percent). During wet to normal years (20 to 50 percent) the high capacity photo would be visible during mid-July/August. The intermediate capacity photo was taken with the water surface elevation at 3,250 feet. Compared to the historical elevation exceedance curves, this elevation generally occur in winter/mid spring and again in late summer/early fall. Within the recreation period, this intermediate elevation would be visible in mid-August during normal to dry water years (50 to 80 percent). The low capacity photo was taken with the water surface elevation at 3,194 feet and would generally be visible during fall through mid-spring, well outside of the recreation period.

Photos at Windy Point Picnic Area and Mammoth Pool Boat Ramp mostly include high and low lake capacities. Outstanding photos as identified in Appendix E will be taken in 2003.

6.0 LITERATURE CITED

United States Department of Agriculture-Forest Service. 1991. Forest Land and Resources Management Plan, Sierra National Forest.

United States Department of Agriculture-Forest Service. 1974. National Forest Landscape Management Volume 2, Chapter 1, The Visual Management System. Agricultural Handbook Number 462.

TABLES

Table LAND-9-1. List of KOPs and Associated VQO Designations

Project Name	KOP	KOP Location	Description of View	VQO*
Big Creek 1&2	1	Kaiser Pass Road	Huntington Lake from Kaiser Pass Road	Retention
	2	Rancheria Creek Campground	Huntington Lake from the campground	Retention
	3	Huntington Lake Boat Launch	Huntington Lake from the boat launch	Retention
	4	Bear Cove Day Use	Huntington Lake from the day use area	Retention
	5	Dowville picnic area	Huntington Lake from the picnic area	Retention
	6	Dam 3	Huntington Lake and the top of Dam 3 from Huntington Lake Road	Retention
	7	Huntington Lake Marina	Huntington Lake from the marina	Retention
	8	Big Creek No. 1 at Huntington Lake Road	Big Creek No. 1 penstocks from Huntington Lake Road	Retention
	9	Big Creek No. 2	Big Creek No. 2 and 2a powerhouses from Canyon Road	Retention
Big Creek 2A, 8 & Eastwood	10	White Bark Vista	Portal Forebay and microwave site from White Bark Vista	Retention
	11	Florence Lake Picnic area	Florence Lake from picnic area	Retention
	12	Florence Lake Boat Ramp	Florence Lake and dam from boat ramp	Retention
	13	Kaiser Pass Road	Mono-Bear Siphon from Kaiser Pass Road	Retention
	14	Shaver Lake boat launch	Shaver Lake, dam, and boat launch from boat launch parking area	Retention
	15	Shaver Dam turnout	Shaver Lake and dam from turnout	Retention
	16	Shaver Lake Point	Shaver Lake from vista point	Retention
	17	Camp Edison boat ramp	Shaver Lake and marina from boat ramp	Retention
	9	Big Creek 2A	Big Creek No. 2 and 2a powerhouses from Canyon Road	Retention
	18	Big Creek 8 (from 8S03)	Big Creek No. 8 powerhouse and Dam 6 from Forest Route 8S03	Retention/ Partial Retention

Table LAND-9-1. List of KOPs and Associated VQO Designations (continued)

Project Name	KOP	Location	Description of View	VQO*
	19	Balsam Meadows Forebay	Balsam Meadows Forebay, inlet, outlet, dams from the day use area	Retention/ Partial Retention
	20	Near Eagle Point picnic area	Eastwood tailrace from the picnic area	Retention
	21	Near the Fishing Club	Eastwood tailrace from the Fishing Club	Retention
	22	Mushroom Rock Vista	Balsam Forebay and Shaver Lake from the vista point	Retention
	23	Bear Creek Diversion	Bear Creek Diversion Forebay from diversion dam crane pad	Retention
	24	Bear Creek Diversion	Bear Creek Diversion Forebay from diversion dam walkway	Retention
Big Creek No. 3	25	Big Creek No. 3	To be taken in 2003	Retention
Mammoth Pool	26	Near Mile High Vista	Mammoth Pool Reservoir and dam from Minarets Road near Mile High Vista	Retention
	27	Mile High Vista	Mammoth Pool Reservoir from Mile High Vista	Retention
	28	Windy Pt. Picnic Area	Mammoth Pool Reservoir and dam from picnic area	Retention
	29	Mammoth Pool Boat Ramp	Mammoth Pool Reservoir and dam from picnic area	Retention
	30	Forest Route 8S03 to Mammoth Pool powerhouse	Mammoth Pool-Big Creek No. 3 transmission line from Forest Route 8S03	Retention/ Partial Retention
	31	8S05, Canyon Road	Mammoth Pool penstock from Canyon Road	Modification
	32	Forest Route 8S03 to Mammoth Pool powerhouse	Mammoth Pool penstock, Big Creek No. 8 powerhouse, and Mammoth Pool-Big Creek No. 3 transmission line from Forest Route 8S03	Retention/ Partial Retention
	33	Forest Route 8S03 to Mammoth Pool powerhouse	Mammoth Pool powerhouse and penstock from Forest Route 8S03	Retention/ Partial Retention

* - Two VQOs are listed where the KOP is located near the border of two objectives.

Table Land 9-2. Lake Capacity Related Visual Assessment Locations

Project Name	KOP No.	Photo No.	KOP Location	Original Photograph Capacity	Highest Lake Capacity	Intermediate Lake Capacity	Lowest Lake Capacity
Big Creek No. 1& 2 (Huntington Lake)	1	1	Huntington Lake from Kaiser Pass Road	7/2/2002 el. 6,949 ft 87879 af	7/2/2002 el. 6,949 ft. 87879 af	(To be taken)	(To be taken)
	2	2a	Rancheria Campground	10/1/2001 el. 6,943 ft. 79688 af	7/2/2002 el. 6,949 ft. 87879 af	(To be taken)	(To be taken)
	3	3b	Huntington Lake Boat Launch	10/1/2001 el. 6,943 ft. 79688 af	7/2/2002 el. 6,949 ft. 87879 af	(To be taken)	(To be taken)
	4	4	Bear Cove Day Use Area	10/1/2001 el. 6,943 ft. 79688 af	7/2/2002 el. 6,949 ft. 87879 af	(To be taken)	(To be taken)
Big Creek No. 2A, 8 & Eastwood (Florence Lake)	11	11	Florence Lake Picnic Area	10/1/2001 el. 7,263 ft. 13561 af	7/2/2002 el. 7,324 ft. 61521 af	(To be taken)	9/23/2002 el. 7,261 ft. 12324 af
	12	12 a/b	Florence Lake Boat Launch	10/1/2001 el. 7,263 ft. 13561 af	7/2/2002 el. 7,324 ft. 61521 af	(To be taken)	9/23/2002 el. 7,261 ft. 12324 af
(Shaver Lake)	14	14 a/b	Shaver Lake Boat Launch	10/2/2001 el. 5,354 ft. 103815 af	(To be taken)	(To be taken)	(To be taken)
	14	14c	Shaver Lake Boat Launch	10/2/2001 el. 5,354 ft. 103815 af	7/2/2002 el. 5,365 ft. 125812 af	(To be taken)	(To be taken)
	15	15 a/b	Shaver Dam turnout	10/2/2001 el. 5,354 ft. 103815 af	7/2/2002 el. 5,365 ft. 125812 af	(To be taken)	(To be taken)

Table Land 9-2. Lake Capacity Related Visual Assessment Locations (continued)

Project Name	KOP No.	Photo No.	KOP Location	Original Photograph Capacity	Highest Lake Capacity	Intermediate Lake Capacity	Lowest Lake Capacity
	16	16c	Shaver Lake Point	10/2/2001 el. 5,354 ft. 103815 af	7/2/2002 el. 5,365 ft. 125812 af	(To be taken)	(To be taken)
Mammoth Pool	27	27a	Near Mile High Vista	10/12/2001 el. 3,194 ft. 19255 af	7/15/2002 el. 3,315 ft. 104961 af	9/16/2002 el. 3,250 ft. 49680 af	10/12/2001 el. 3,194 ft. 19255 af
	28	28a	Windy Point Picnic Area	10/4/2001 el. 3,211 ft. 26789 af	(To be taken)	(To be taken)	10/12/2001 el. 3,194 ft. 19255 af
	28	28b	Windy Point Picnic Area	10/4/2001 el. 3,211 ft. 26789 af	7/15/2002 el. 3,315 ft. 104961 af	(To be taken)	10/12/2001 el. 3,194 ft. 19255 af
	29	29b	Mammoth Pool Boat Launch	10/4/2001 el. 3,211 ft. 26789 af	7/15/2002 el. 3,315 ft. 104961 af	(To be taken)	10/12/2001 el. 3,194 ft. 19255 af
		29c	Mammoth Pool Boat Launch	10/4/2001 el. 3,211 ft. 26789 af	7/15/2002 el. 3,315 ft. 104961 af	(To be taken)	10/12/2001 el. 3,194 ft. 19255 af
		29d	Mammoth Pool Boat Launch	10/4/2001 el. 3,211 ft. 26789 af	7/15/2002 el. 3,315 ft. 104961 af	(To be taken)	10/12/2001 el. 3,194 ft. 19255 af

FIGURE

Placeholder for Figure

Non-Internet Public Information

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APPENDIX A

Key Observation Point Photos

KOP 1 - Photo 1
View of Huntington Lake looking southwest from Kaiser Pass Road (July 2, 2002)

KOP 2 - Photo 2
View of Huntington Lake looking west from Rancheria Campground (October 1, 2001)

KOP - Photo 3a
View of sign looking east from Huntington Lake Rd. (October 1, 2001)

KOP 3 - Photo 3b
View of Huntington Lake looking south from boat launch (October 1, 2001)

KOP 4 - Photo 4
View of Huntington Lake looking south from the Bear Cove Day Use Area
(October 1, 2001)

KOP 5 - Photo 5a
View of Huntington Lake looking north east from the Dowville Picnic Area (October 1, 2001)

KOP 5 - Photo 5b
View of Huntington Lake looking north east from the Dowville Picnic Area (October 1, 2001)

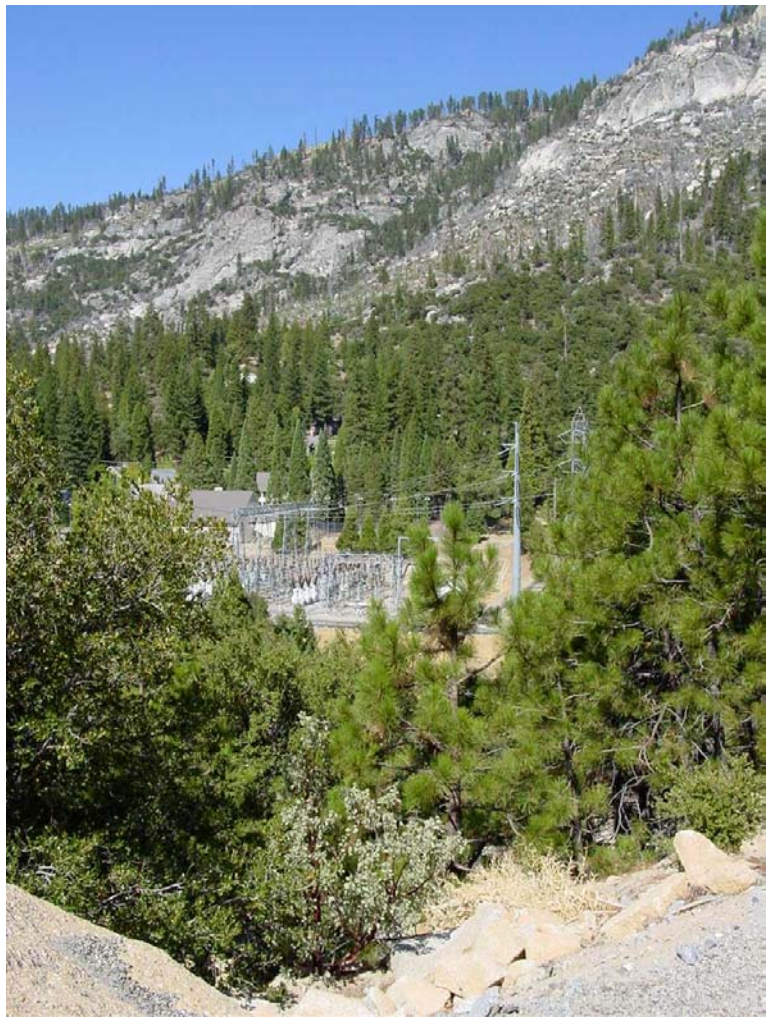
K0P 6 - Photo 6a
View of Huntington Lake looking south from Dam 3 (October 1, 2001)

K0P 6 - Photo 6b
View of Huntington Lake looking south from Dam 3 (October 1, 2001)

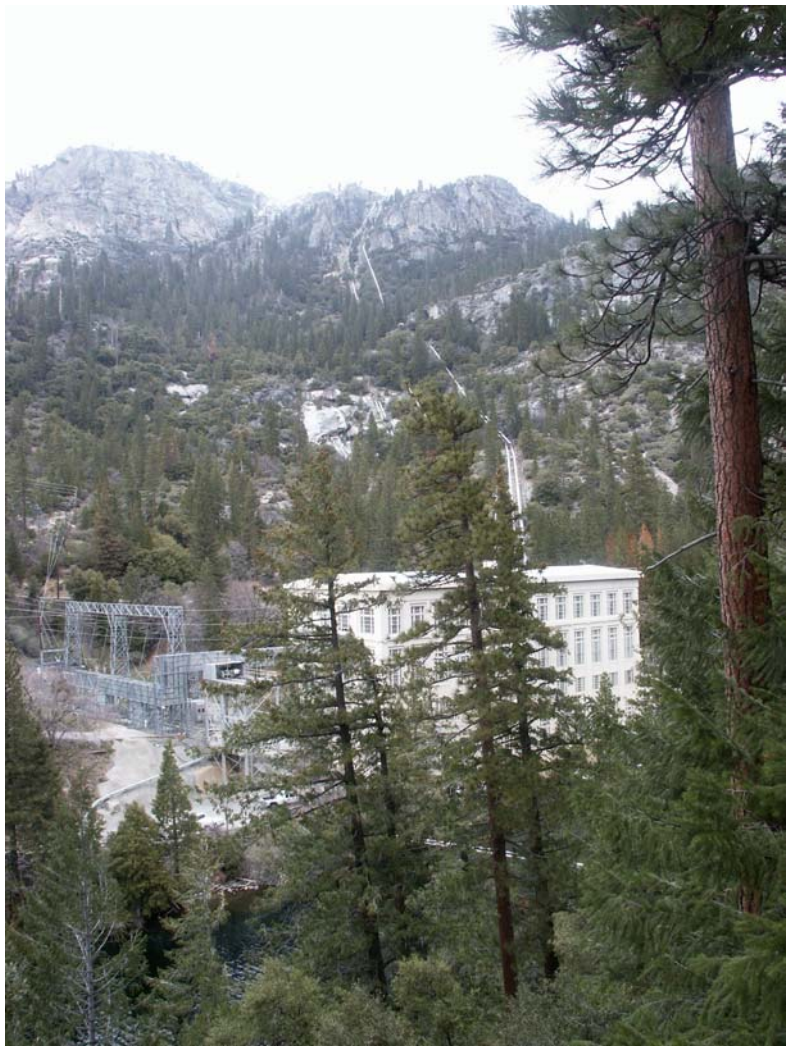
KOP 7 - Photo 7a
View of Marina sign looking east from Huntington Lake boat launch (October 1, 2001)

KOP 7 - Photo 7b
View of Huntington Lake looking east from Huntington Lake boat launch (October 1, 2001)

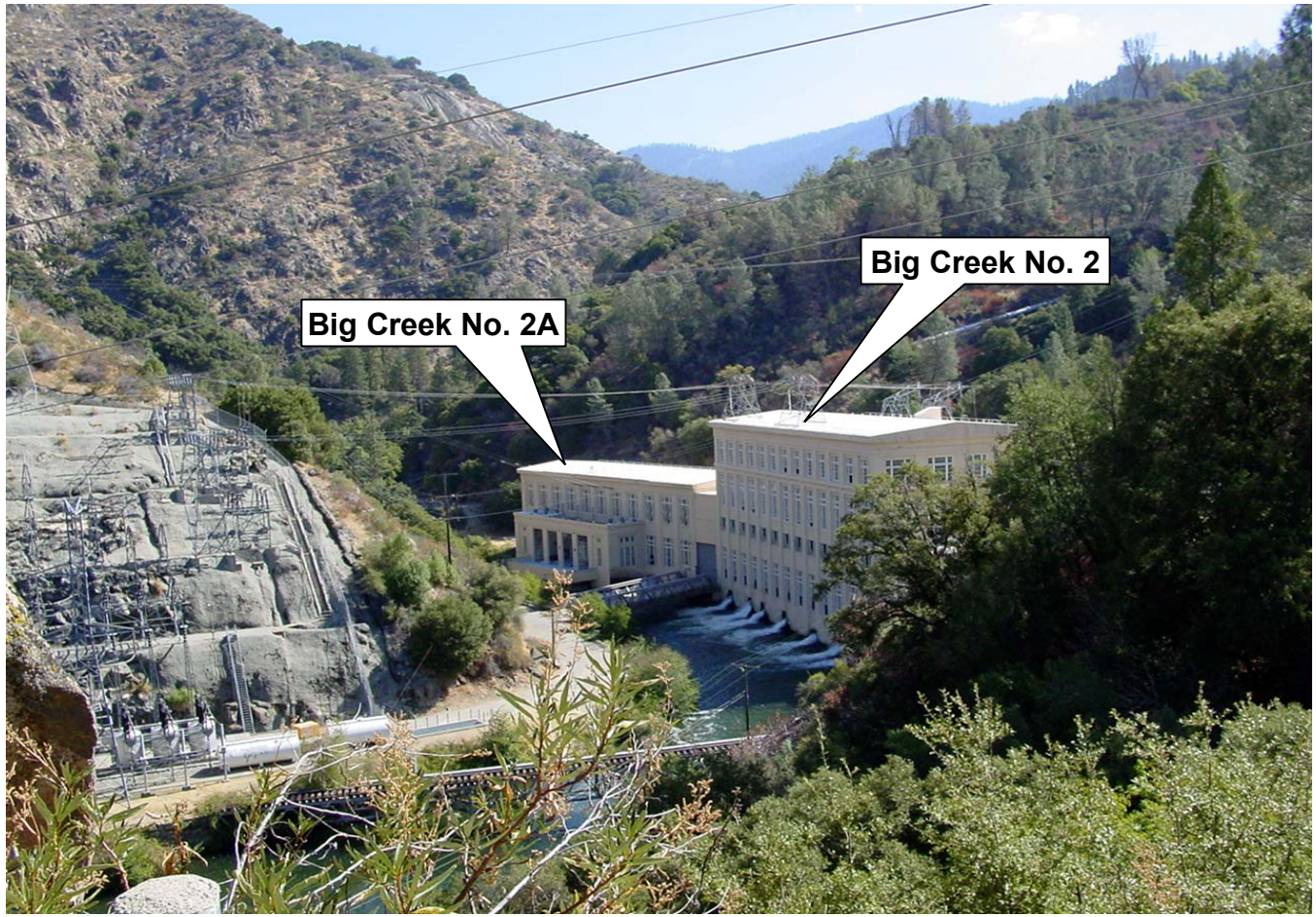
KOP 8 - Photo 8a
View of Big Creek No. 1 penstocks looking north east from Huntington Lake Road (October 2, 2001)



KOP 8 - Photo 8b
View of Big Creek No. 1 switchyard looking north from Huntington Lake Rd. (October 2, 2001)



KOP 8 - Photo 8c
View of Big Creek No. 1 powerhouse looking north west from Huntington Lake Rd. (April 19, 2003)



KOP 9 - Photo 9a
View of Powerhouses 2 and 2A looking east from Canyon Road (October 3, 2001)

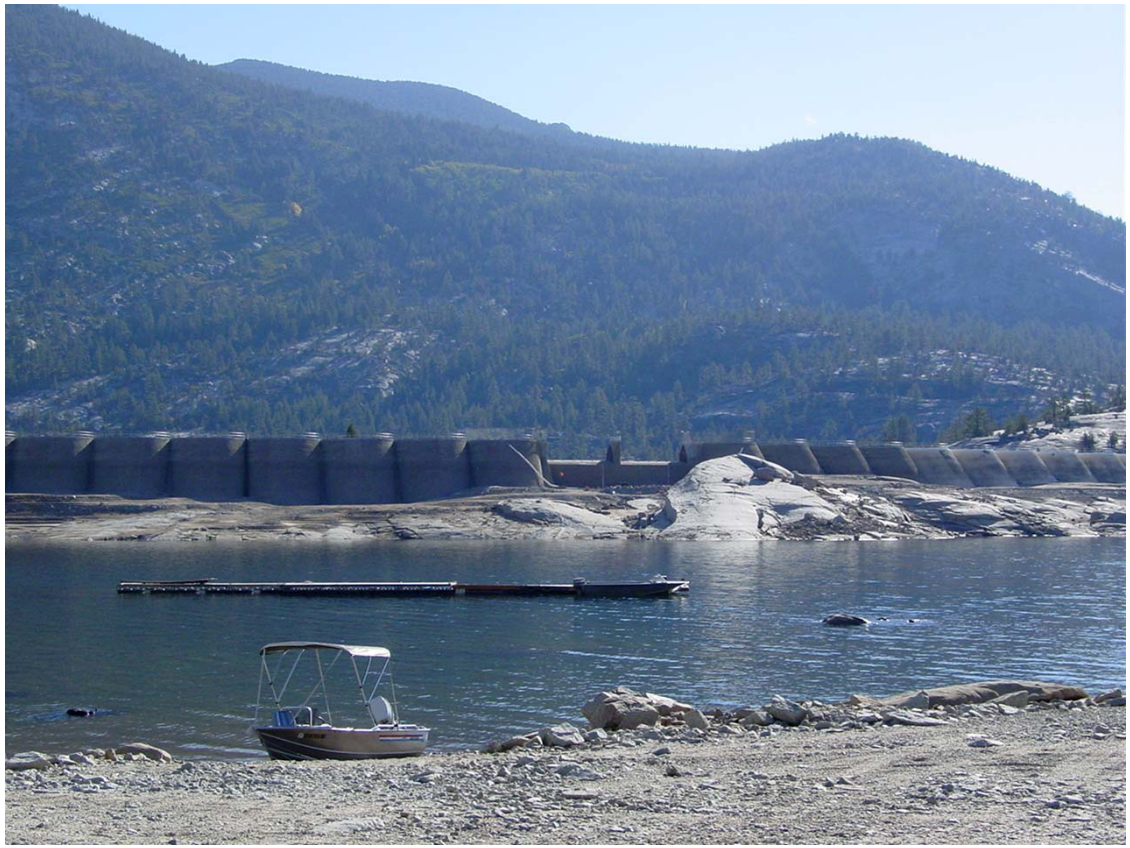
KOP 9 - Photo 9b
View of Big Creek 2/2A Switchyard looking north east from Canyon Road
(October 3, 2001)

KOP 10 - Photo 10a
View of the Radio Facility looking north west
from White Bark Vista (October 1, 2001)

KOP 10 - Photo 10b
View of Lake Edison and Portal Forebay looking east from White Bark Vista (October 1, 2001)

KOP 10 - Photo 10c
View of Portal Forebay looking east from White Bark Vista (October 1, 2001)

KOP 11 - Photo 11
View of Florence Lake Dam looking east from Florence Lake Picnic Area (July 2, 2002)



KOP 12 - Photo 12a
View of Florence Lake Dam looking south east from Florence Lake boat ramp (October 1, 2001)

KOP 12 - Photo 12b
View of Florence Lake Dam looking south east from Florence Lake boat ramp
(October 1, 2001)

KOP13 - Photos 13a
View of Mono Bear Siphon looking south from Kaiser Pass Road (October 1, 2001)

KOP13 - Photos 13b
View of Mono Bear Siphon looking south from Kaiser Pass Road (October 1, 2001)

KOP 14 - Photo 14a

View of Shaver Lake and Sierra Marina looking south west from Shaver Lake boat launch (October 3, 2001)

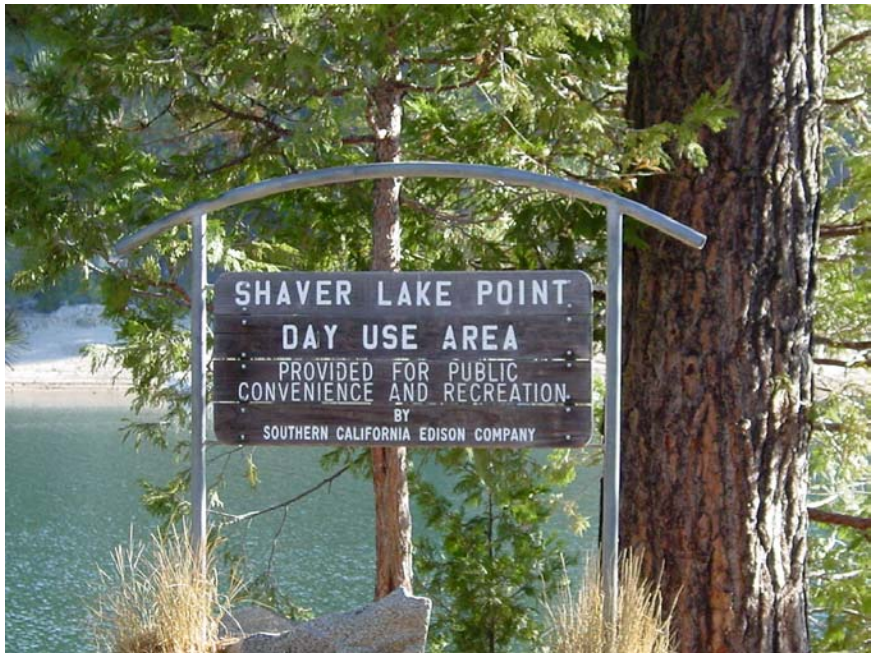
KOP 14 - Photo 14b

View of Shaver Lake and Sierra Marina looking south from Shaver Lake boat launch (October 3, 2001)

KOP 14 - Photo 14c
View of Sierra Marina Facilities and Shaver Lake Dam looking west from Shaver Lake Boat Launch parking lot (October 3, 2001)

KOP 15 - Photo 15a
View of Shaver Lake Dam looking south from Shaver dam turnout (October 3, 2001)

KOP 15 - Photo 15b
View of Shaver Lake Dam looking south from Shaver dam turnout (October 3, 2001)



KOP 16 - Photo 16a
View of the Sign looking east from Shaver Lake Point (October 3, 2001)

KOP 16 - Photo 16b
View of the Shaver Lake Boat Rental facility looking north east from Shaver Lake Point (October 3, 2001)

KOP 16 - Photos 16c
View of Shaver Lake looking east from Shaver Lake Point (October 3, 2001)

KOP 17 - Photos 17a
View of Shaver Lake looking north east from the Camp Edison Boat Ramp (October 3, 2001)

KOP 17 - Photo 17b
View of Camp Edison Marina looking east from the Camp Edison Boat Ramp (October 3, 2001)

KOP 18 - Photo 18
View of Big Creek 8 Powerhouse and Dam 6 looking South from 8S03
(October 3, 2001)

KOP 19 - Photo 19a
View of Balsam Meadows Forebay and Dam looking north east from Balsam Meadows Forebay Day Use Area (October 2, 2001)

KOP 19 - Photo 19b
View of Balsam Meadows inlet looking north east from Balsam Meadows Forebay (October 2, 2001)

KOP 19 - Photo 19c
View of Balsam Meadows outlet gate looking north west from Balsam Meadows Forebay (October 2, 2001)

KOP 19 - Photo 19d
View of Balsam Meadows Secondary Dam looking north west from Balsam Meadows Forebay (October 2, 2001)

KOP 20 - Photo 20
View of Eastwood tailrace and Shaver Lake looking east from Eagle Point Picnic Area (October 2, 2001)

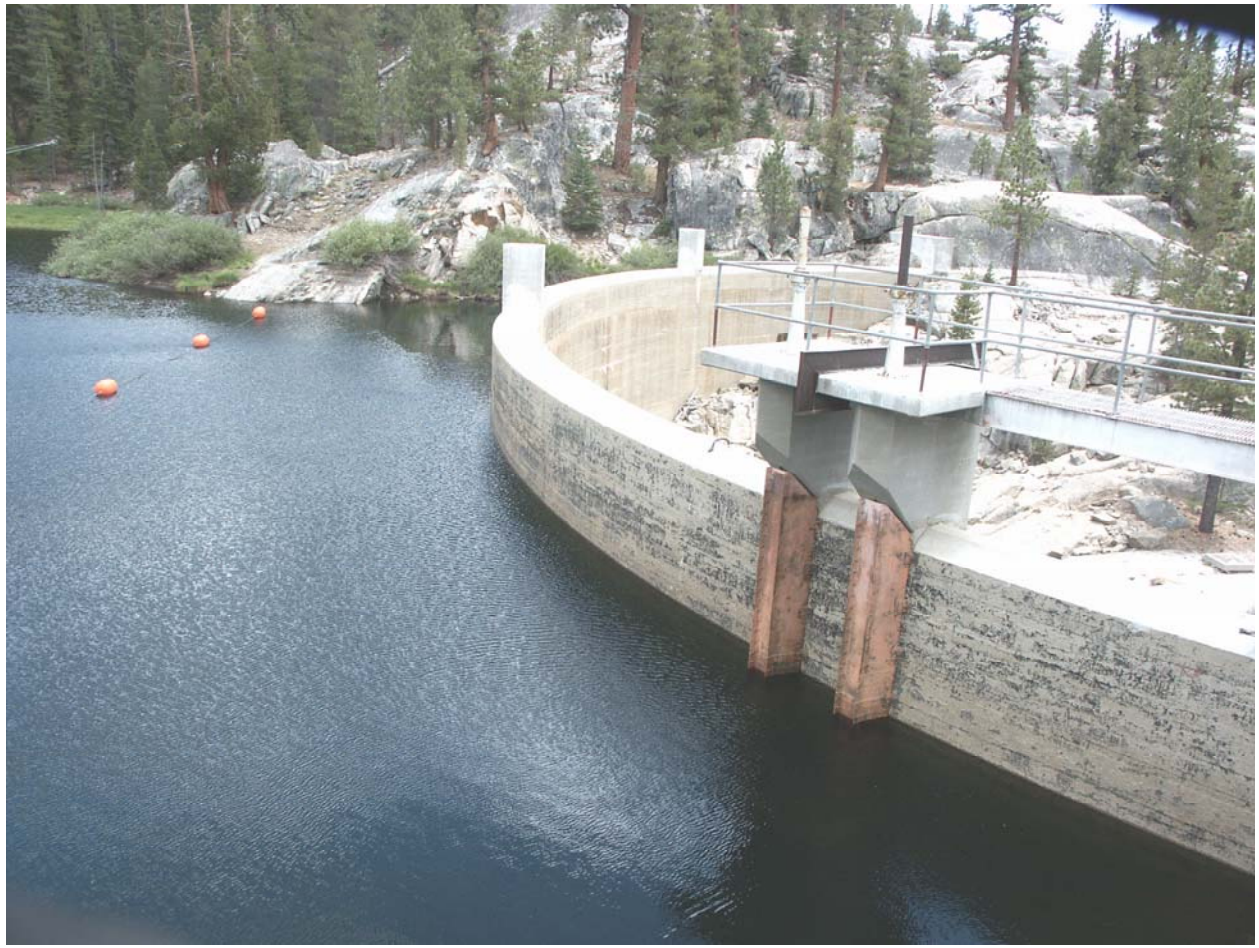
KOP 21 - Photo 21
View of Eastwood tailrace looking north from Fishing Club (October 2, 2001)

KOP 22 - Photo 22a
View of Balsam Forebay looking south from Mushroom Rock (September 16, 2002)

KOP 22 - Photo 22b
View of Shaver Lake looking south from Mushroom Rock (September 16, 2002)

KOP 22 - Photo 22c
View of Balsam Forebay looking south from Mushroom Rock (September 16, 2002)

KOP 23 - Photo 23a
Bear Diversion looking north from concrete crane pad (July 18, 2002)



KOP 23 - Photo 23b
Bear Creek Diversion Dam looking east from crane pad (July 18, 2002)

KOP 23 - Photo 23c
Bear Diversion looking north from walkway on dam (July 18, 2002)

To be taken

KOP 25 - Photo 25
Big Creek No. 3

KOP 26 - Photo 26
View of Mammoth Pool north east of Minarets Road (October 12, 2001)

KOP 27 - Photo 27
View of Mammoth Pool north east from Mile High Vista Point (October 4, 2001)

KOP 28 - Photo 28a
View of Mammoth Pool north east from Windy Point Picnic Area (October 4, 2001)

KOP 28 - Photo 28b
View of Mammoth Pool south east from Windy Point Picnic Area (October 4, 2001)

KOP 29 - Photo 29a View of sign south east from Mammoth Pool boat ramp (October 4, 2001)

KOP 29 - Photo 29b View of Mammoth Pool boat ramp from parking area (October 4, 2001)

KOP 29 - Photo 29c
View of Mammoth Pool reservoir south east from Mammoth Pool boat ramp
(October 4, 2001)

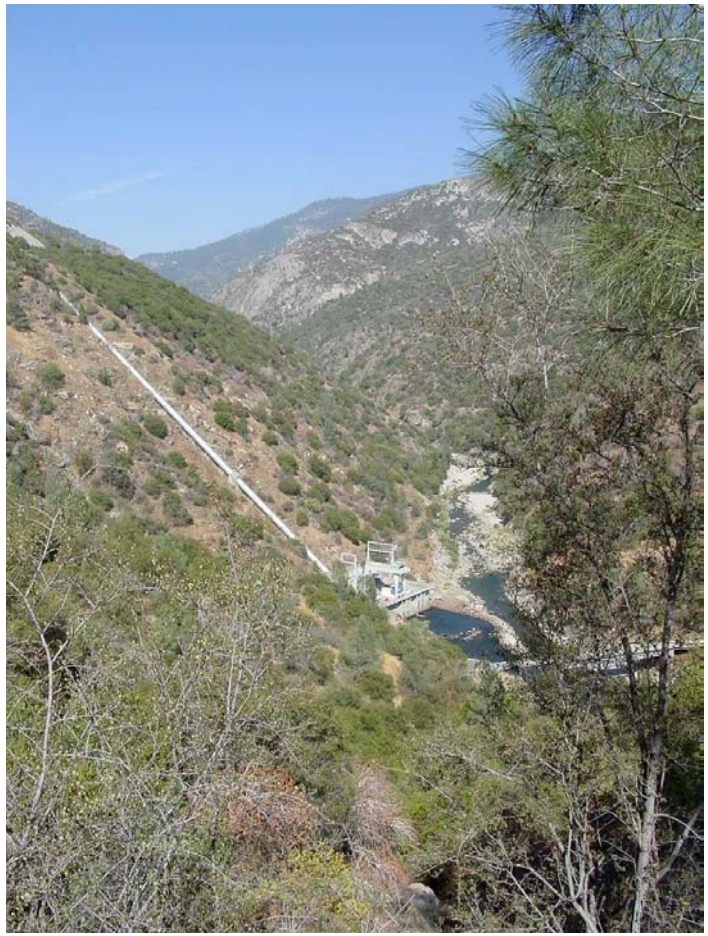
KOP 29 - Photo 29d

View of Mammoth Pool and Dam south east from Mammoth Pool boat ramp (October 4, 2001)

KOP 30 - Photo 30
View of Mammoth Pool to Big Creek No. 3 transmission line south east from Forest Route 8S03 (October 4, 2001)

KOP 31 - Photo 31
View of Mammoth Pool penstock north west from Canyon Road between Big Creek No. 2/2A and Big Creek No. 8 (October 4, 2001)

KOP 32 - Photo 32
View of Mammoth Pool penstock,Big Creek No. 8 powerhouse, and transmission line south east from Forest Route 8S03 (October 4, 2001)

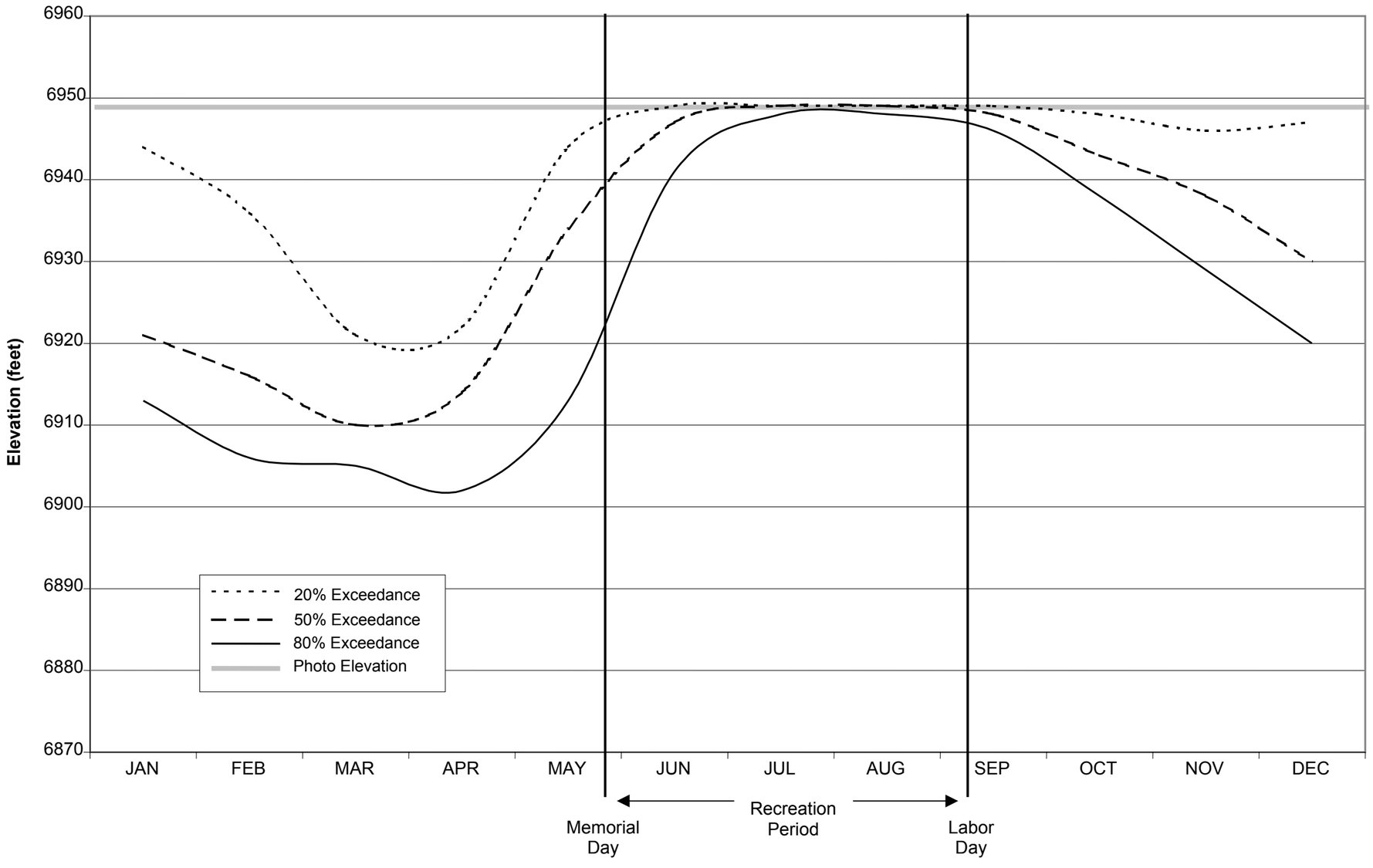


KOP 33 - Photo 33
View of Mammoth Pool Powerhouse and penstock southeast from Forest Route 8S03 (October 4, 2001)

APPENDIX B

Capacity Related Photos from Huntington Lake

Huntington Lake View from Kaiser Pass Road 2002
Historical Elevation Exceedances (1980-2002)



Water Surface Elevation at 6,949 feet

(intermediate)
To be taken

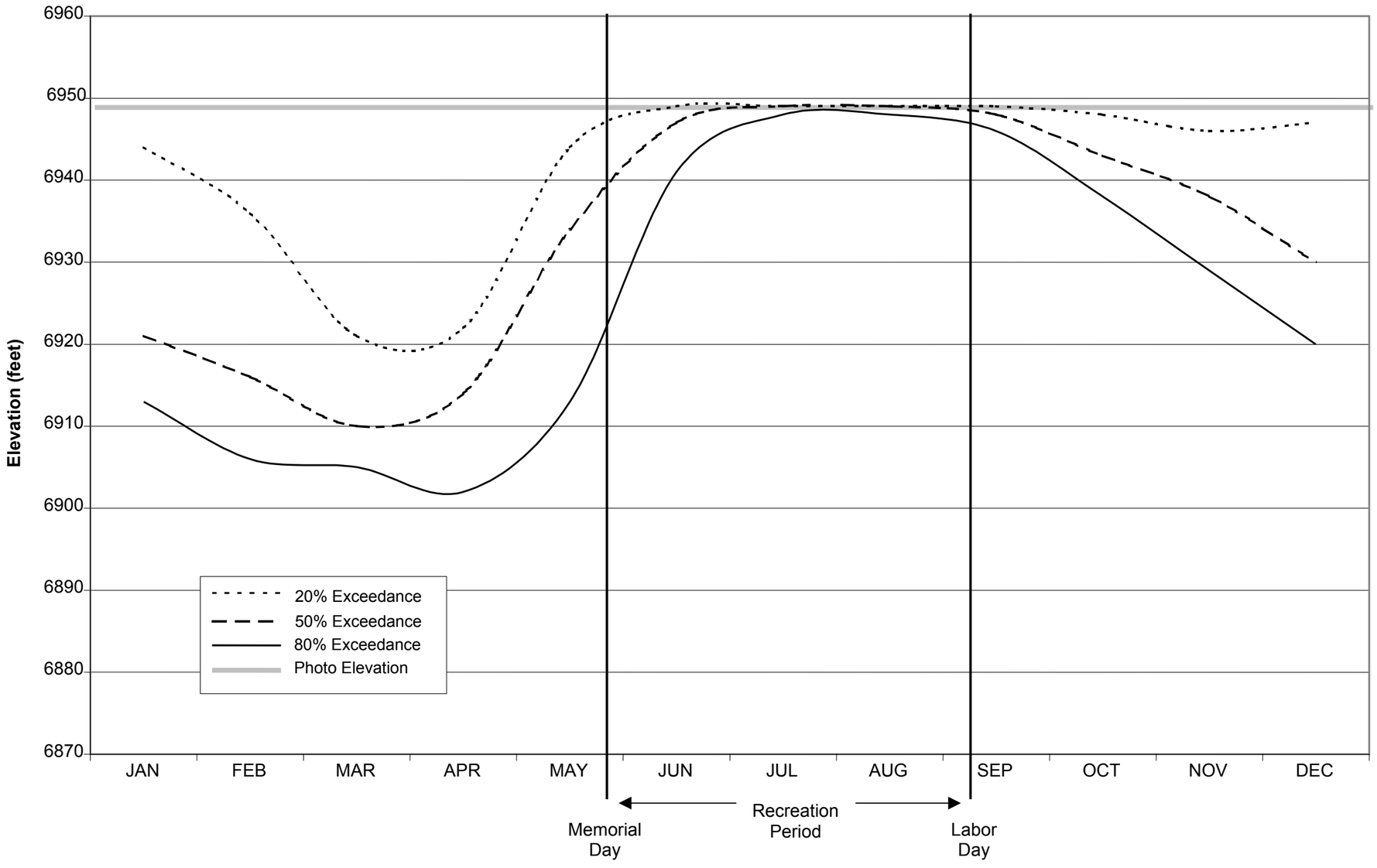
Water Surface Elevation at ____ feet

(low)
To be taken

Water Surface Elevation at ____ feet

Huntington Lake View from Kaiser Pass Road
Water Surface Elevation at 6,949 feet

Huntington Lake View West from Rancheria Campground 2002
Historical Elevation Exceedances (1980-2002)



Water Surface Elevation at 6,949 feet

(intermediate)
To be taken

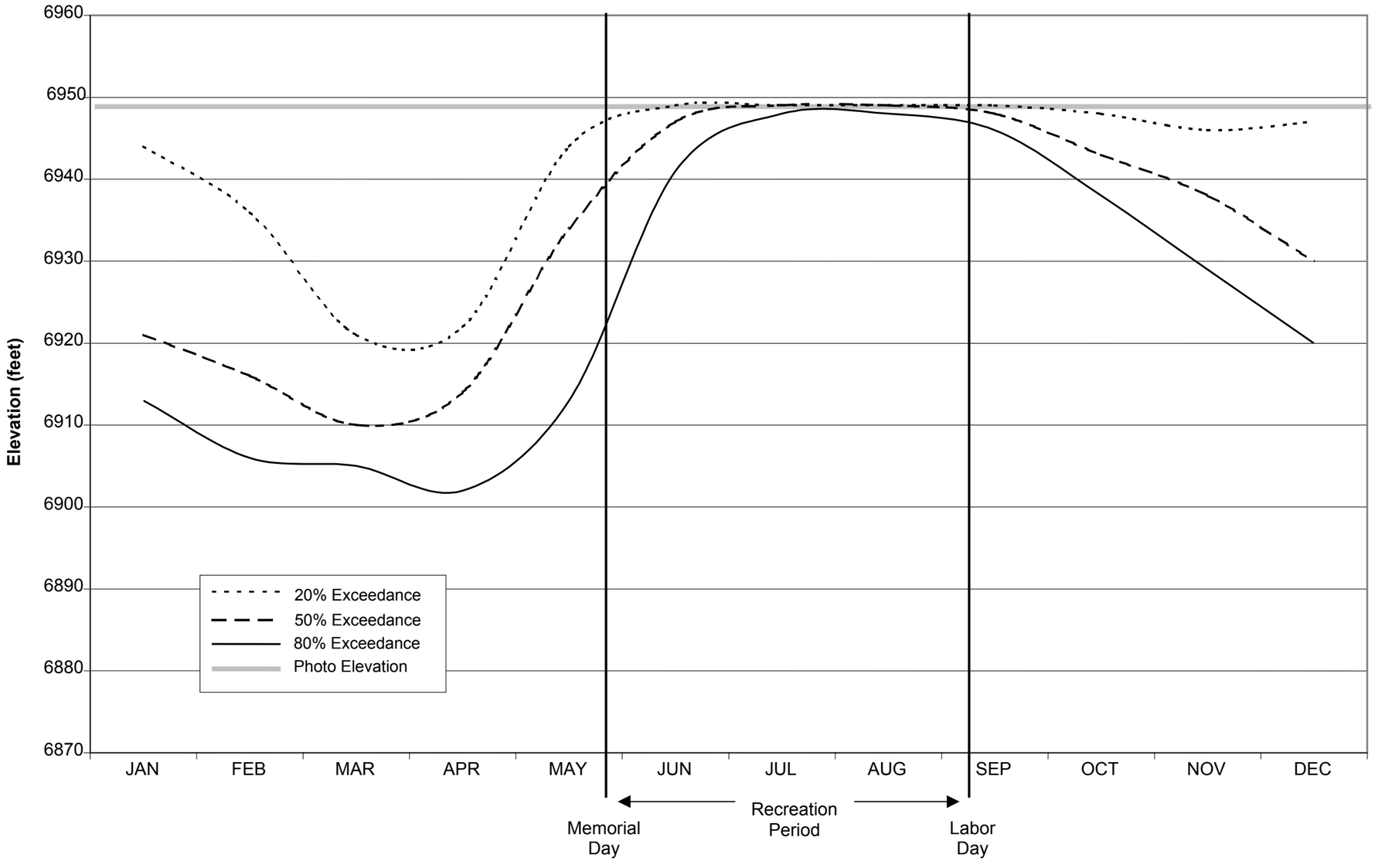
Water Surface Elevation at ____ feet

(low)
To be taken

Water Surface Elevation at ____ feet

Huntington Lake View West from Rancheria Campground
Water Surface Elevation at 6,949 feet

Huntington Lake Boat Launch 2002
Historical Elevation Exceedances (1980-2002)



Water Surface Elevation at 6,949 feet

(intermediate)
To be taken

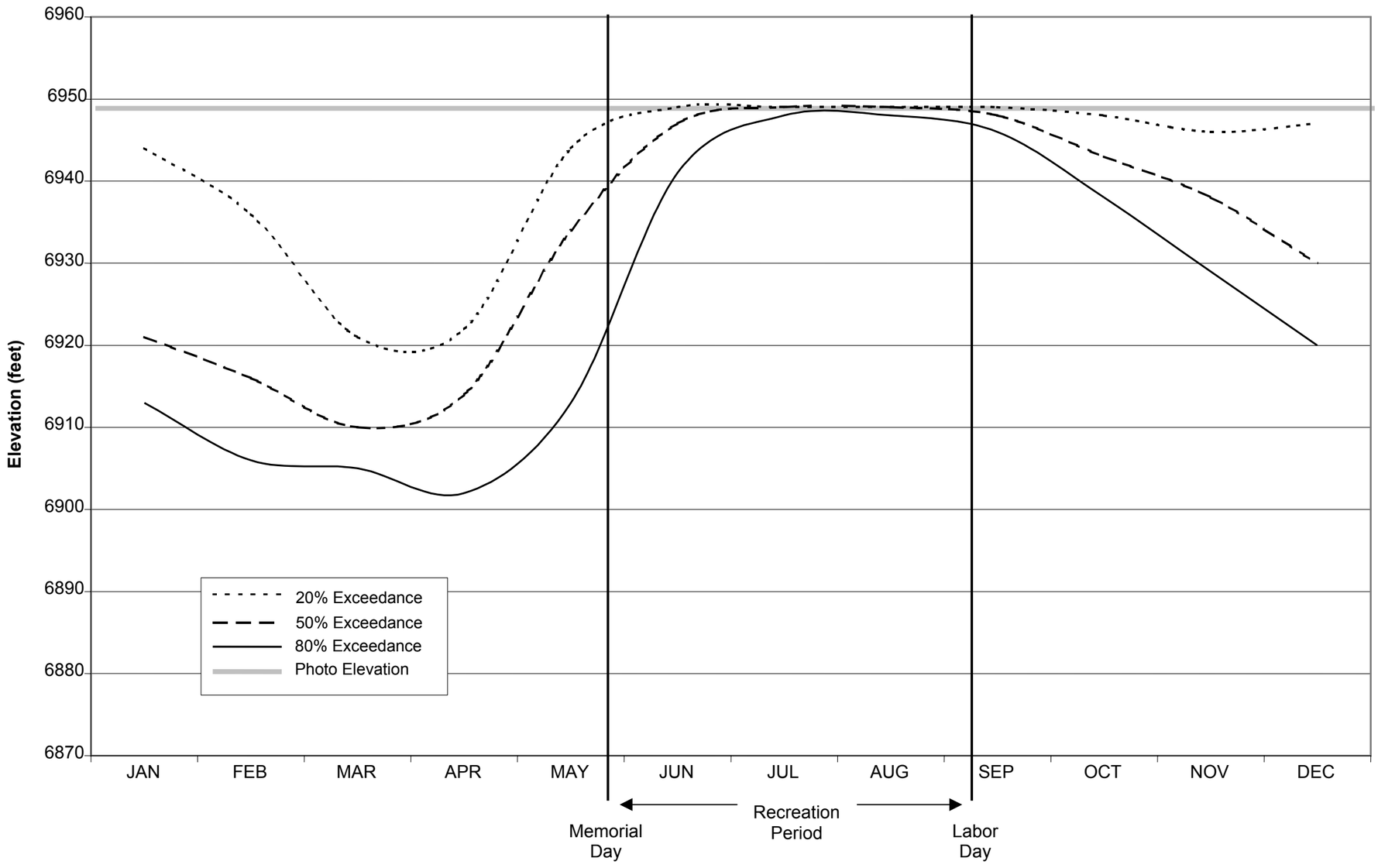
Water Surface Elevation at ____ feet

(low)
To be taken

Water Surface Elevation at ____ feet

Huntington Lake Boat Launch
Water Surface Elevation at 6,949 feet

Huntington Lake View South from Bear Cove Day Use Area 2002
Historical Elevation Exceedances (1980-2002)



Water Surface Elevation at 6,949 feet

(intermediate)
To be taken

Water Surface Elevation at ____ feet

(low)
To be taken

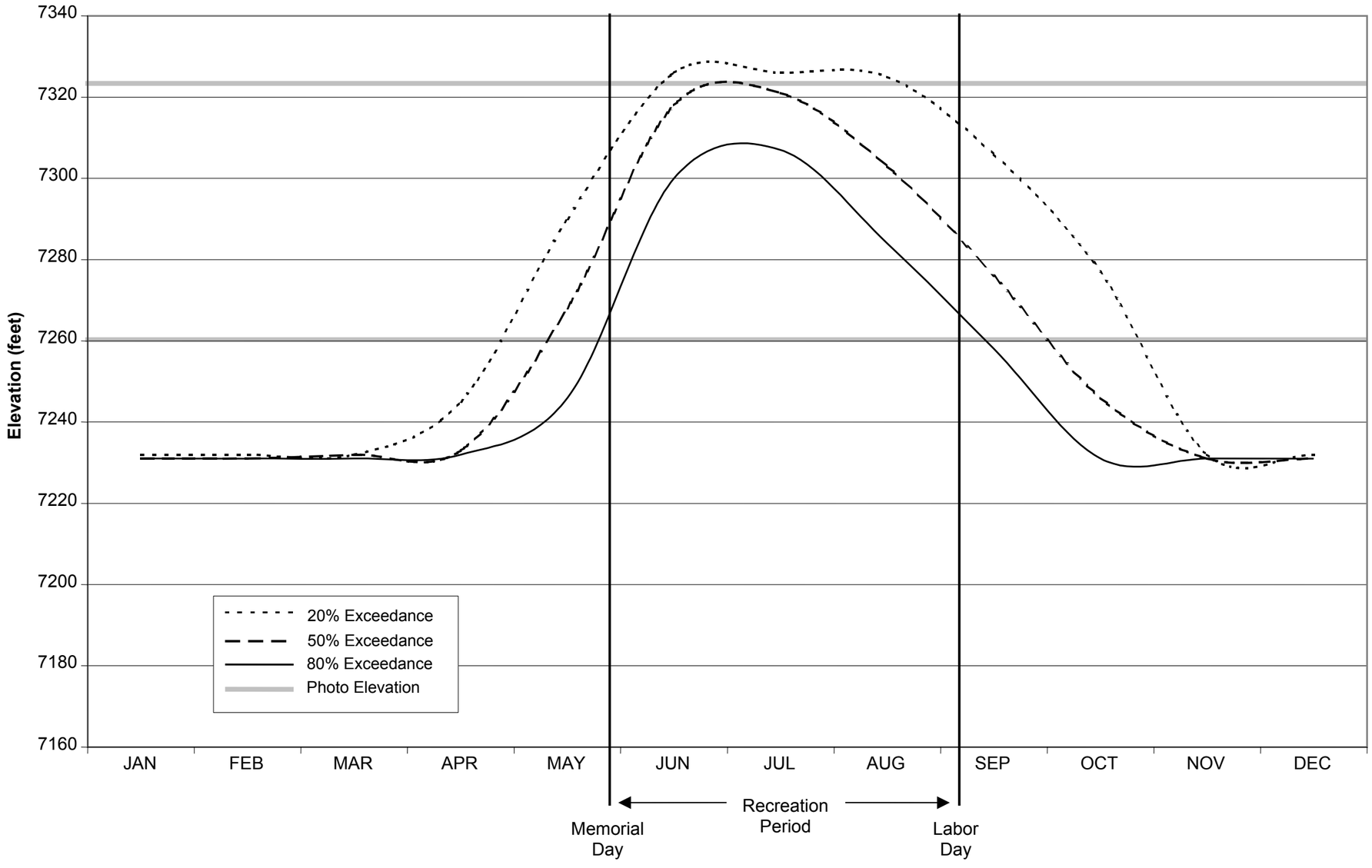
Water Surface Elevation at ____ feet

Huntington Lake View South from Bear Cove Day Use Area
Water Surface Elevation at 6,949 feet

APPENDIX C

Capacity Related Photos from Florence Lake

Florence Lake Picnic Area 2002
Florence Lake Historical Elevation Exceedances (1980-2002)



Water Surface Elevation at 7,324 feet

(intermediate)
To be taken

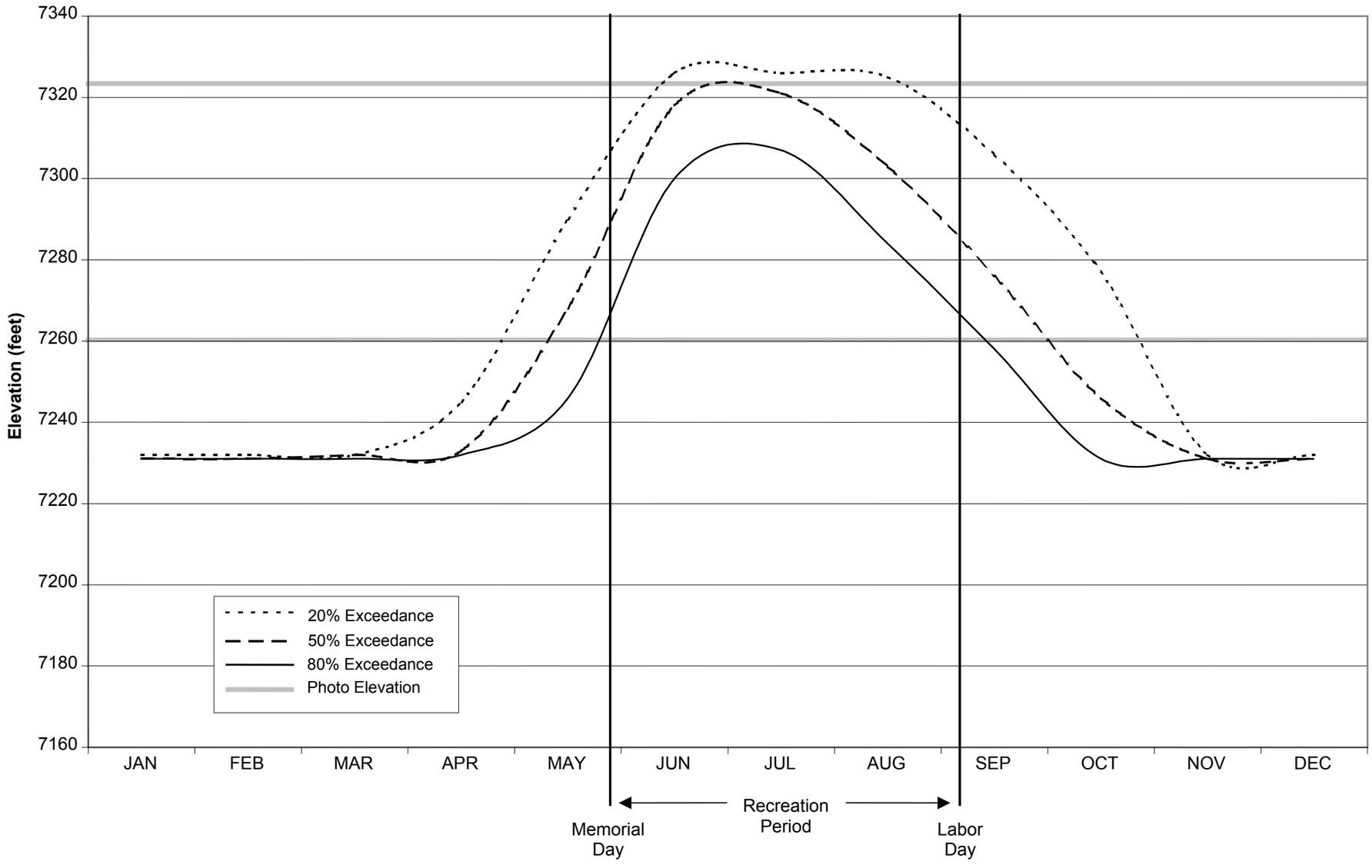
Water Surface Elevation at ____ feet

Water Surface Elevation at 7,261 feet

Florence Lake Picnic Area
Water Surface Elevation at 7,324 feet

Florence Lake Picnic Area
Water Surface Elevation at 7,261 feet

Florence Lake Boat Launch 2002
Florence Lake Historical Elevation Exceedances (1980-2002)



Water Surface Elevation at 7,324 feet

(intermediate)
To be taken

Water Surface Elevation at ____ feet

Water Surface Elevation at 7,261 feet

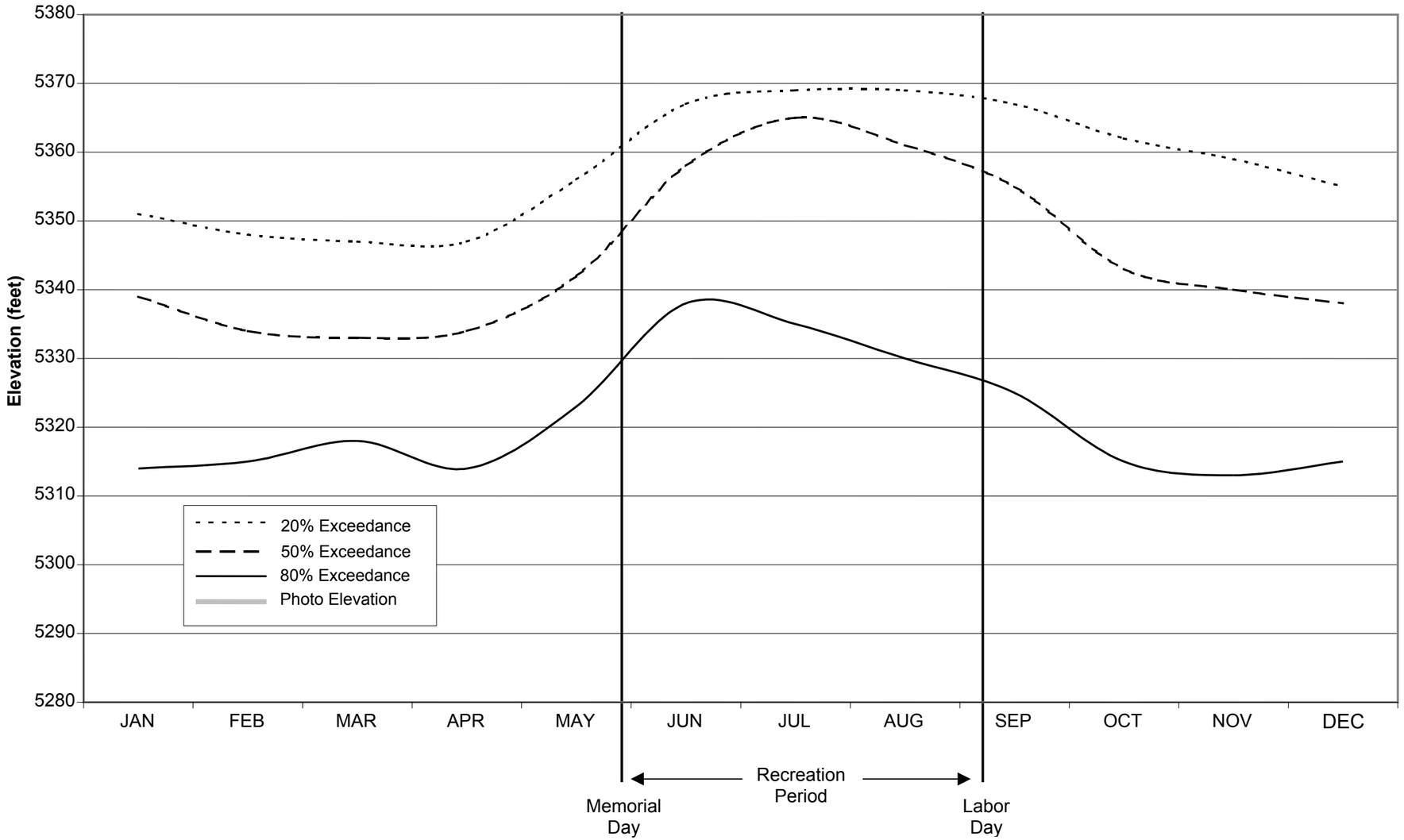
Florence Lake Boat Launch
Water Surface Elevation at 7,324 feet

Florence Lake Boat Launch
Water Surface Elevation at 7,261 feet

APPENDIX D

Capacity Related Photos from Shaver Lake

Shaver Lake and Sierra Marina View Southwest from Shaver Lake Boat Launch 2002 Historical Elevation Exceedances (1980-2002)



(high)
To be taken

Water Surface Elevation at ____ feet

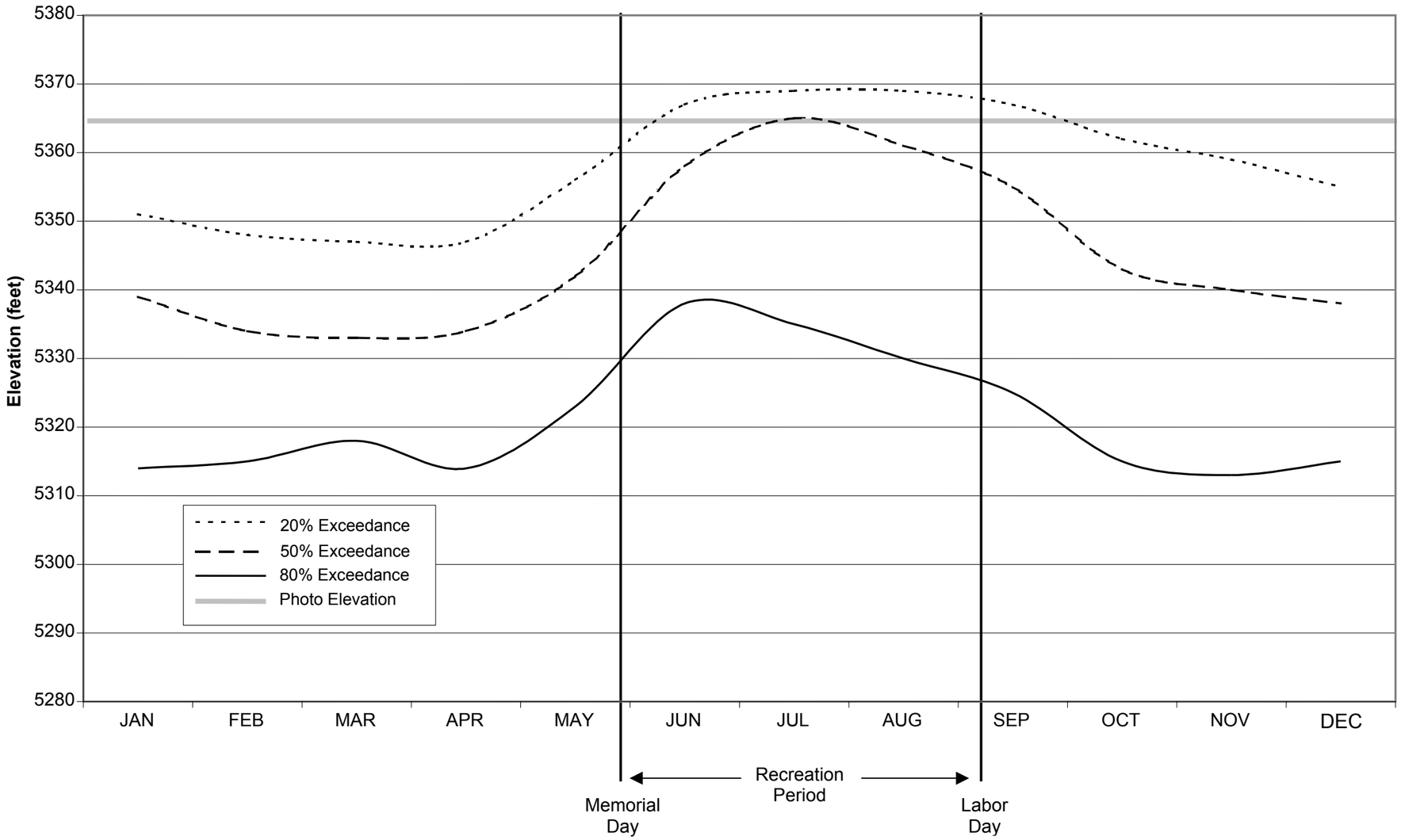
(intermediate)
To be taken

Water Surface Elevation at ____ feet

(low)
To be taken

Water Surface Elevation at ____ feet

Shaver Lake View West from Shaver Lake Boat Launch 2002
Historical Elevation Exceedances (1980-2002)



Water Surface Elevation at 5,365 feet

(intermediate)
To be taken

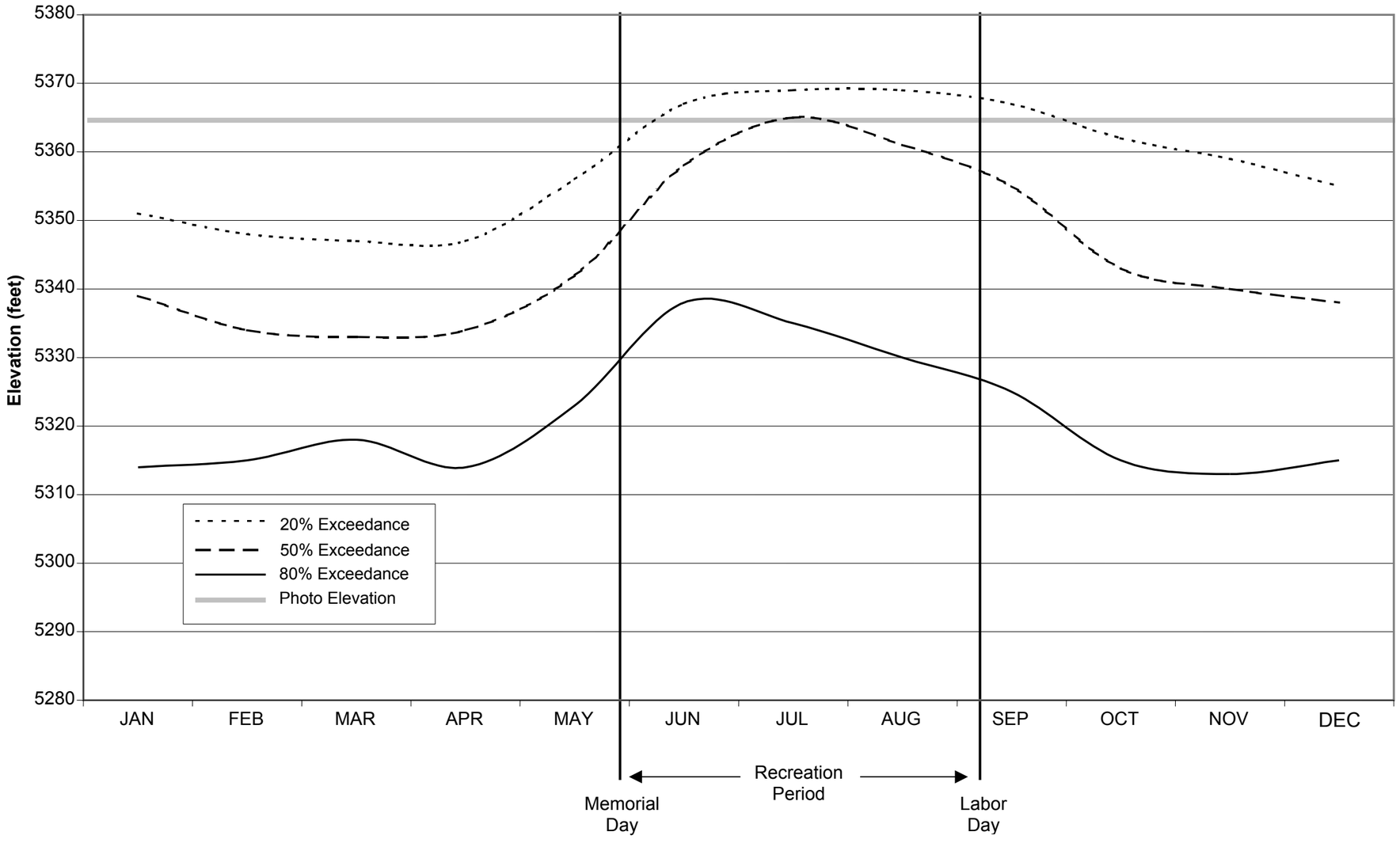
Water Surface Elevation at ____ feet

(low)
To be taken

Water Surface Elevation at ____ feet

Shaver Lake View West from Shaver Lake Boat Launch
Water Surface Elevation at 5,365 feet

Shaver Lake and Dam View South from Shaver Dam Turnout 2002
Historical Elevation Exceedances (1980-2002)



Water Surface Elevation at 5,365 feet

(intermediate)
To be taken

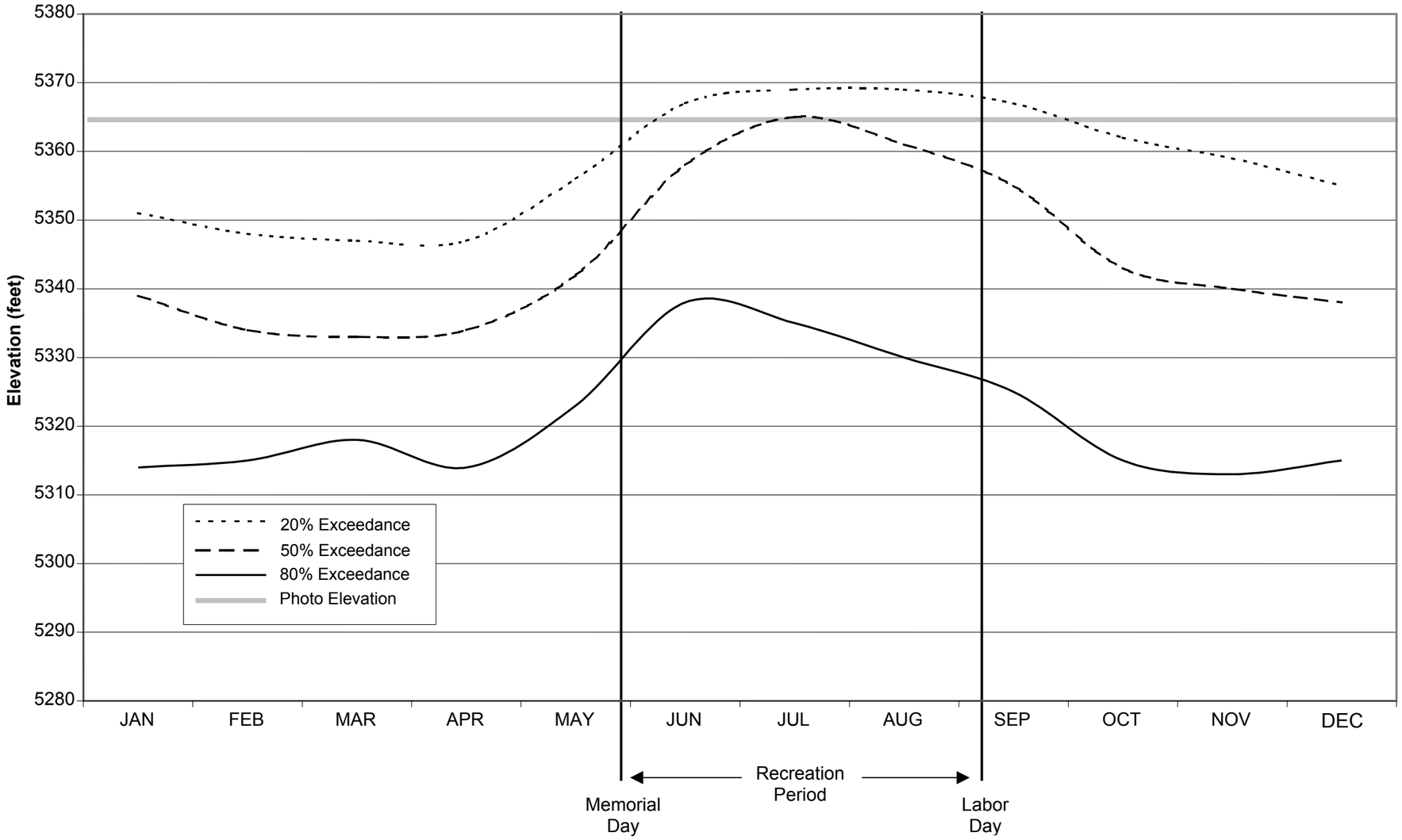
Water Surface Elevation at ____ feet

(low)
To be taken

Water Surface Elevation at ____ feet

Shaver Lake and Dam View South from Shaver Dam Turnout
Water Surface Elevation at 5,365 feet

Shaver Lake View East from Shaver Lake Point 2002
Historical Elevation Exceedances (1980-2002)



Water Surface Elevation at 5,365 feet

(intermediate)
To be taken

Water Surface Elevation at ____ feet

(low)
To be taken

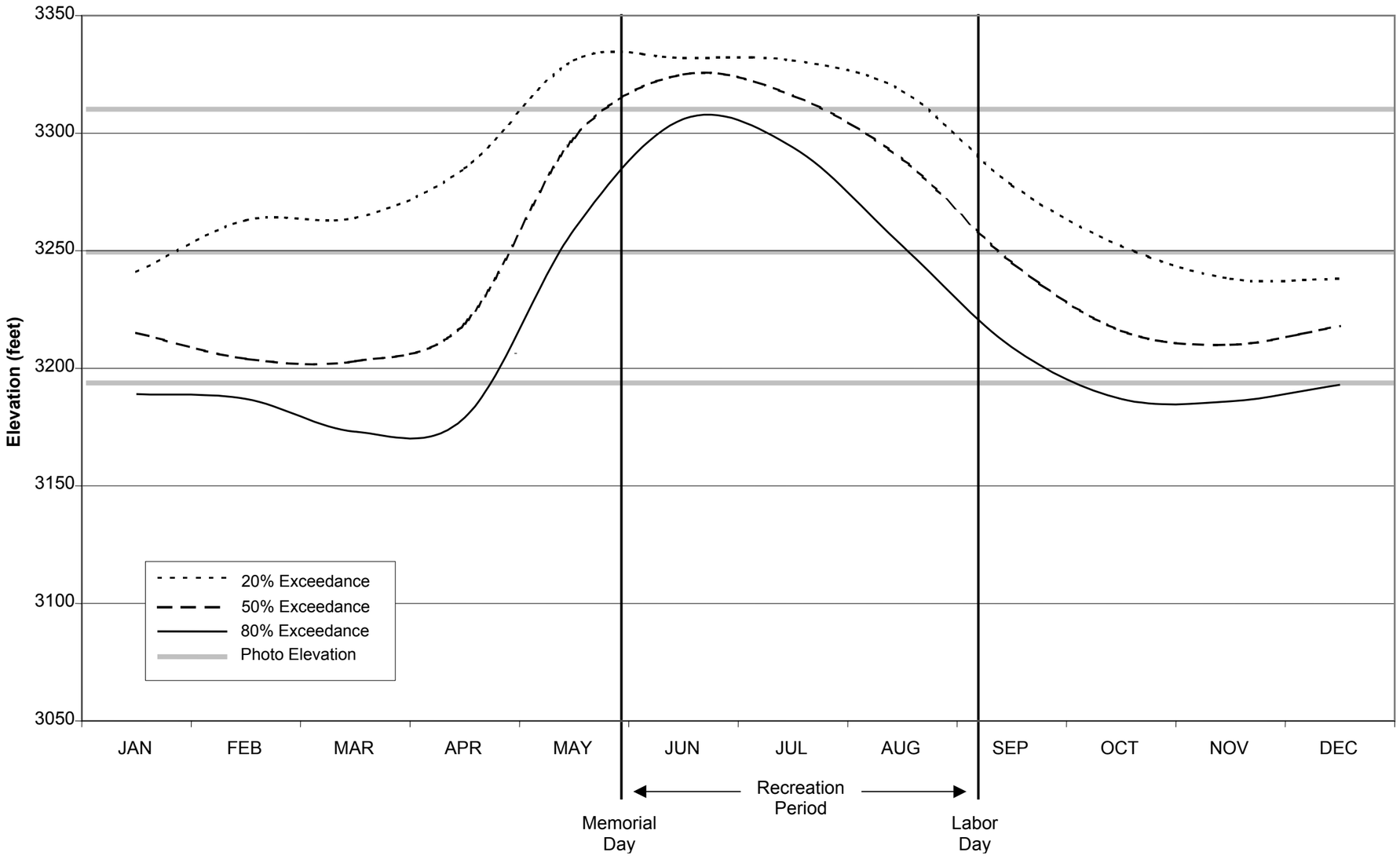
Water Surface Elevation at ____ feet

Shaver Lake View East from Shaver Lake Point
Water Surface Elevation at 5,365 feet

APPENDIX E

Capacity Related Photos from Mammoth Pool

Mammoth Pool Reservoir near Mile High Vista 2002
Historical Elevation Exceedances (1980-2002)

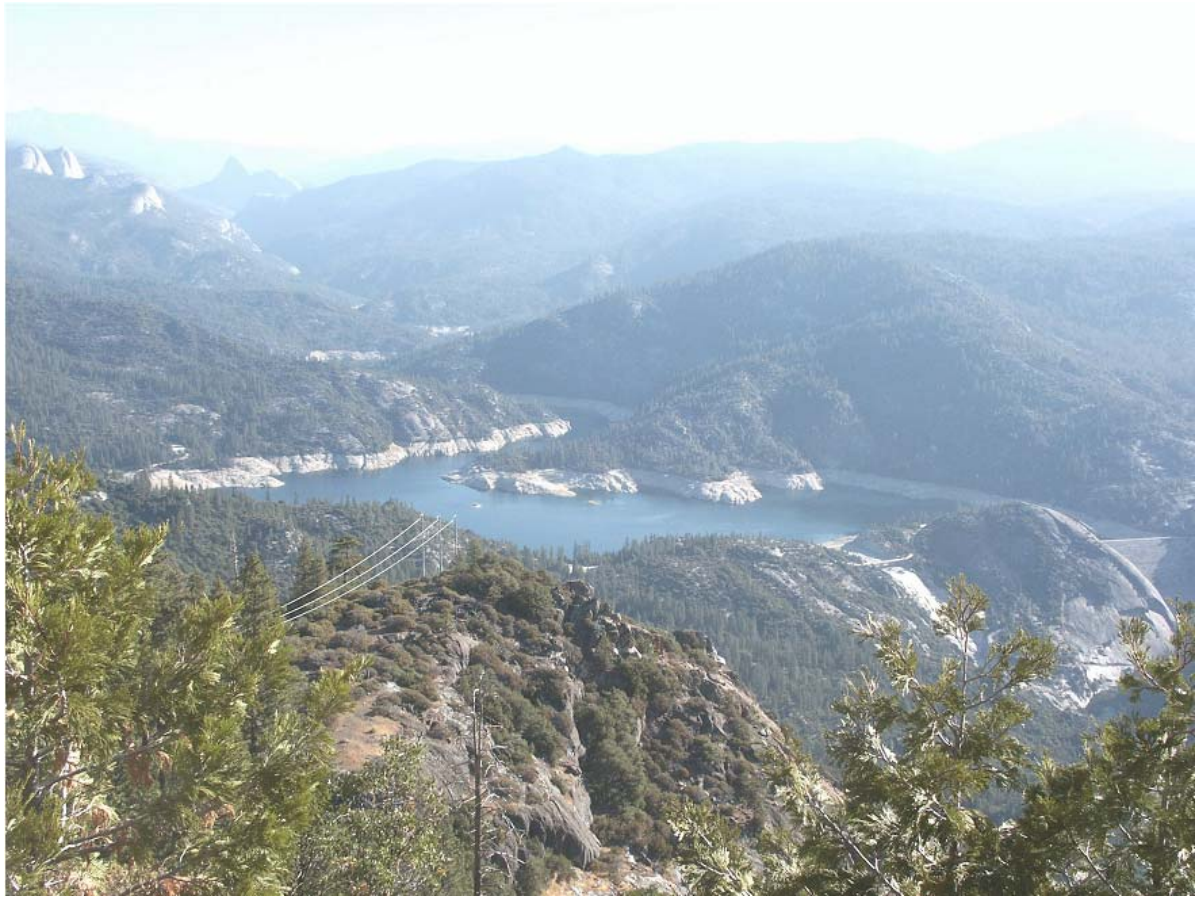


Water Surface Elevation at 3,315 feet

Water Surface Elevation at 3,250 feet

Water Surface Elevation at 3,194 feet

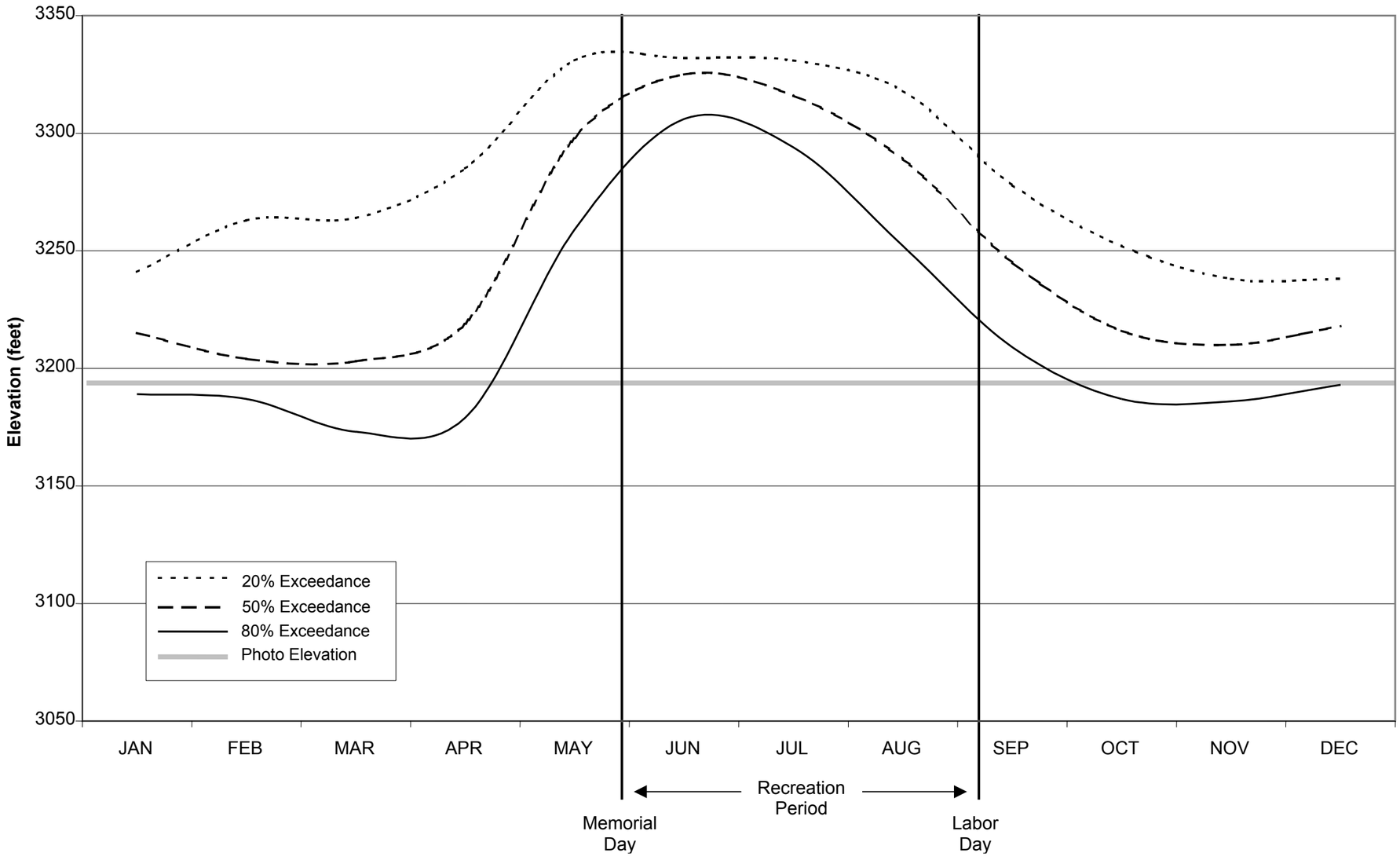
Mammoth Pool Reservoir near Mile High Vista
Water Surface Elevation at 3,315 feet



Mammoth Pool Reservoir near Mile High Vista
Water Surface Elevation at 3,250 feet

Mammoth Pool Reservoir near Mile High Vista
Water Surface Elevation at 3,194 feet

Mammoth Pool Reservoir View Northeast from Windy Point Picnic Area 2002
Historical Elevation Exceedances (1980-2002)



(high)
To be taken

Water Surface Elevation at _____ feet

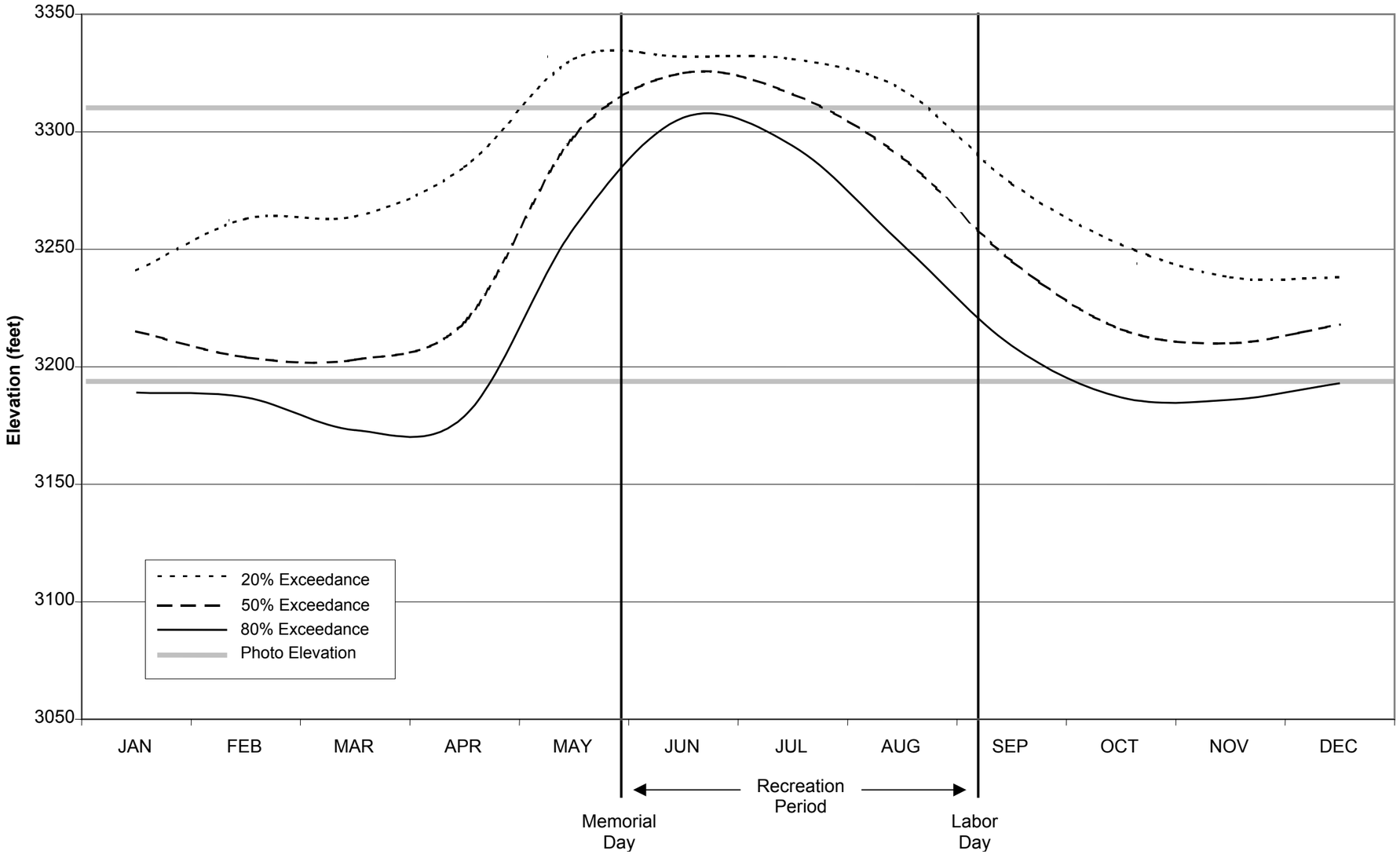
(intermediate)
To be taken

Water Surface Elevation at _____ feet

Water Surface Elevation at 3,194 feet

Mammoth Pool Reservoir View Northeast from Windy Point Picnic Area
Water Surface Elevation at 3,194 feet

Mammoth Pool Reservoir View Southeast from Windy Point Picnic Area 2002
Historical Elevation Exceedances (1980-2002)



Water Surface Elevation at 3,315 feet

(intermediate)
To be taken

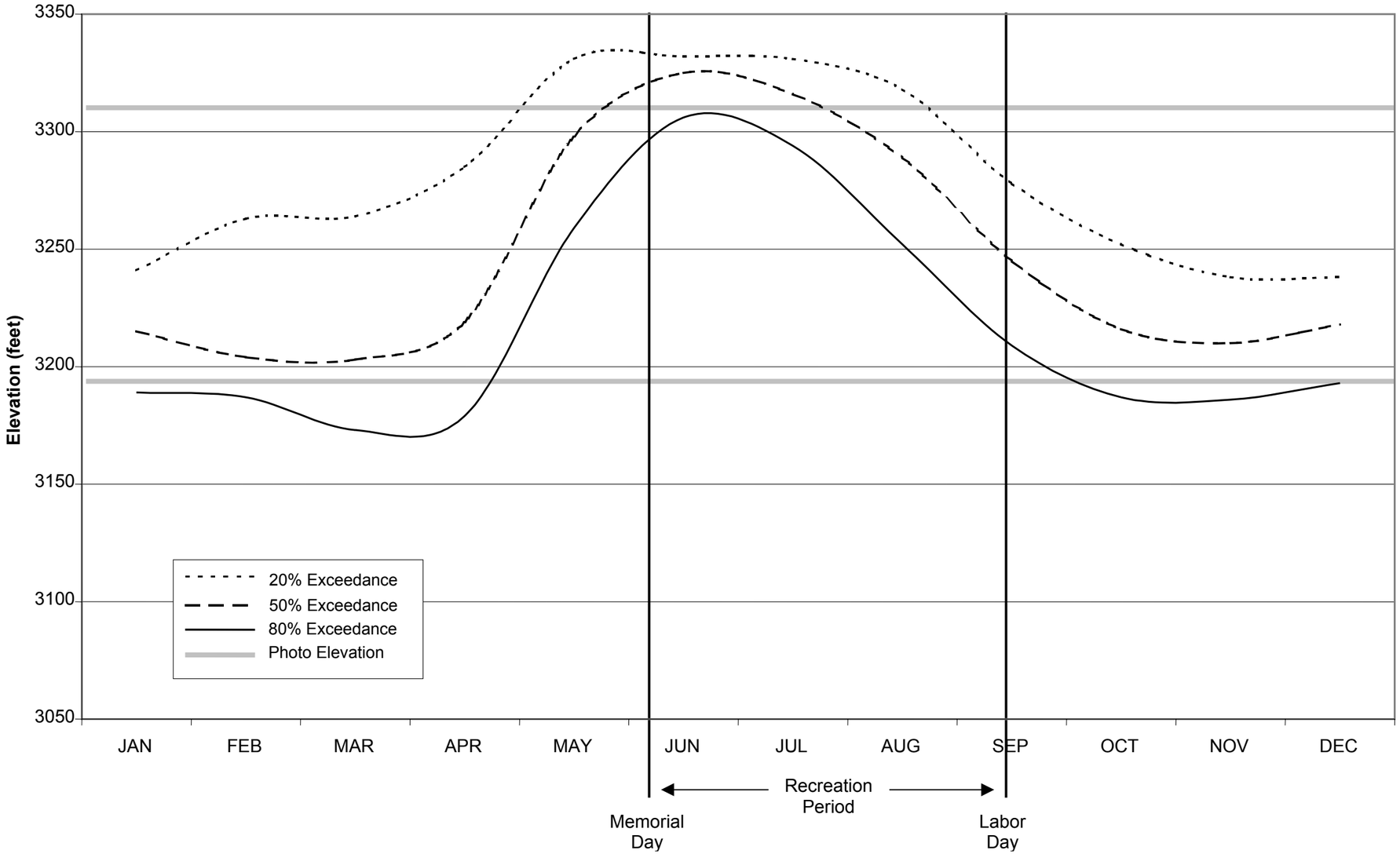
Water Surface Elevation at _____ feet

Water Surface Elevation at 3,194 feet

Mammoth Pool Reservoir View Southeast from Windy Point Picnic Area
Water Surface Elevation at 3,315 feet

Mammoth Pool Reservoir View Southeast from Windy Point Picnic Area
Water Surface Elevation at 3,194 feet

Mammoth Pool Boat Launch View South of Mammoth Pool Boat Ramp 2002
Historical Elevation Exceedances (1980-2002)



Water Surface Elevation at 3,315 feet

(intermediate)
To be taken

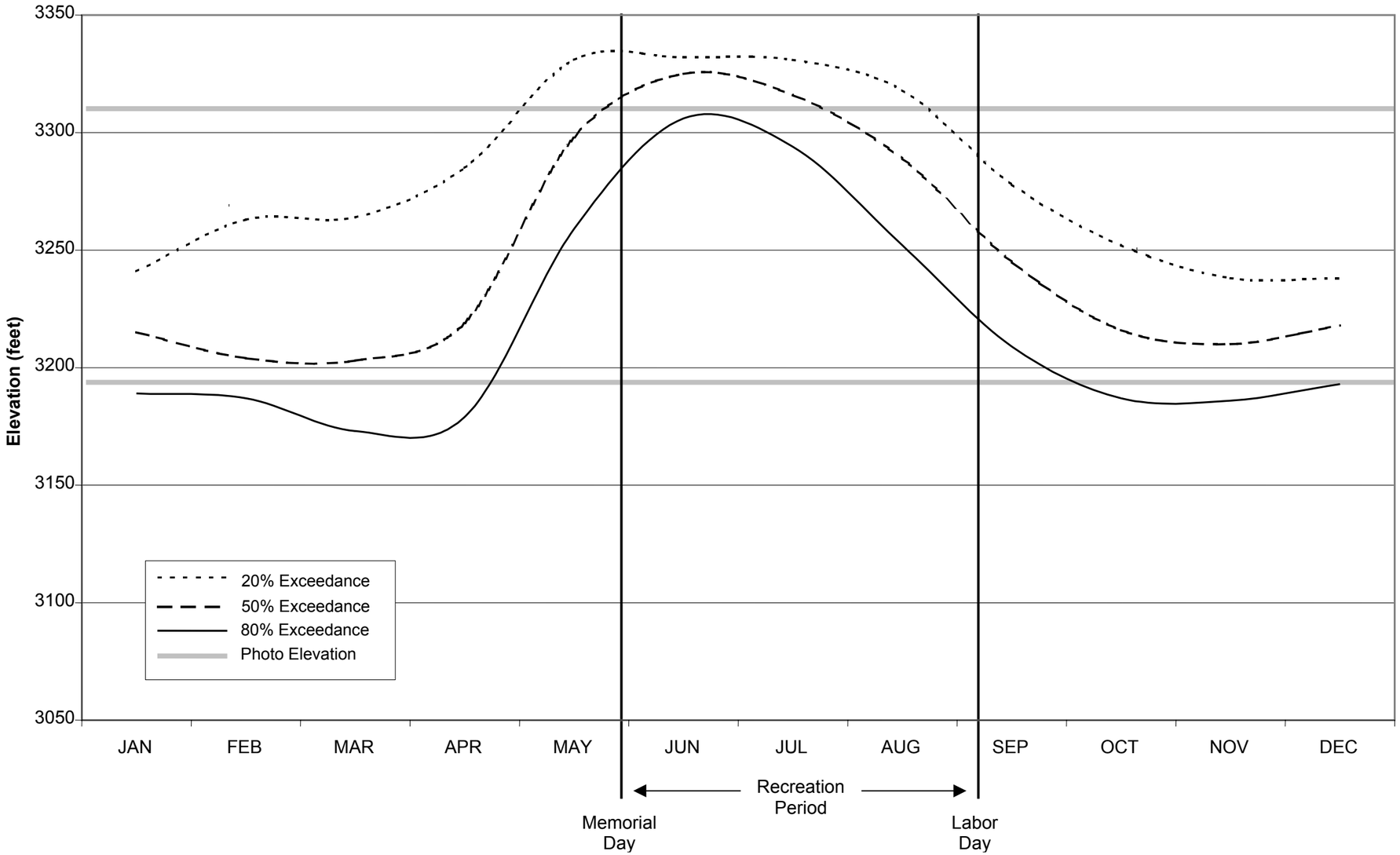
Water Surface Elevation at _____ feet

Water Surface Elevation at 3,194 feet

Mammoth Pool Boat Launch View South of Mammoth Pool Boat Ramp
Water Surface Elevation at 3,315 feet

Mammoth Pool Boat Launch View South of Mammoth Pool Boat Ramp
Water Surface Elevation at 3,194 feet

Mammoth Pool and Dam View Southeast from Mammoth Pool Boat Ramp 2002
Historical Elevation Exceedances (1980-2002)



Water Surface Elevation at 3,315 feet

(intermediate)
To be taken

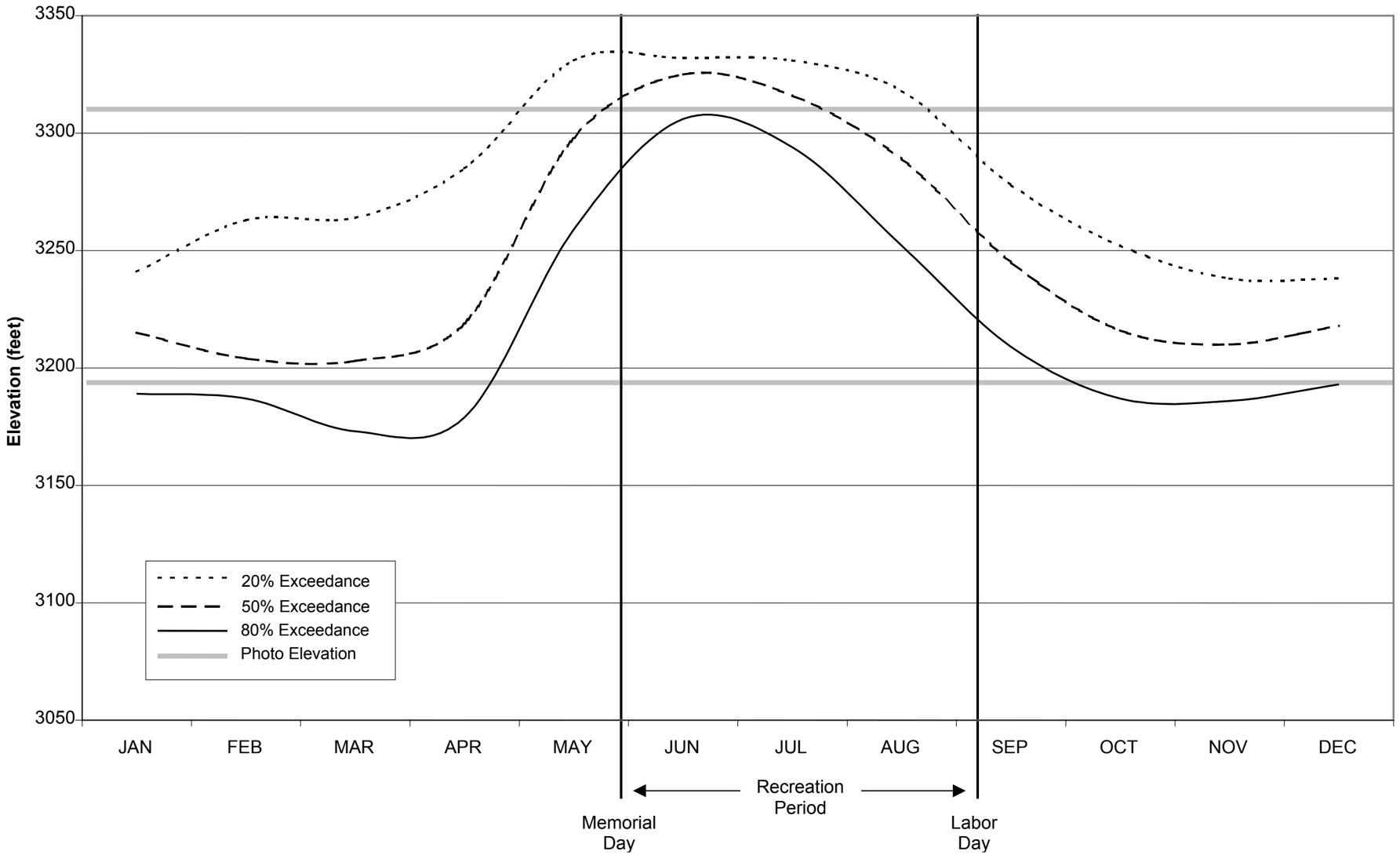
Water Surface Elevation at _____ feet

Water Surface Elevation at 3,194 feet

Mammoth Pool and Dam View Southeast from Mammoth Pool Boat Ramp
Water Surface Elevation at 3,315 feet

Mammoth Pool and Dam View Southeast from Mammoth Pool Boat Ramp
Water Surface Elevation at 3,194 feet

Mammoth Pool Boat Launch Southeast from Mammoth Pool Boat Ramp 2002
Historical Elevation Exceedances (1980-2002)



Water Surface Elevation at 3,315 feet

(intermediate)
To be taken

Water Surface Elevation at _____ feet

Water Surface Elevation at 3,194 feet

Mammoth Pool Boat Launch Southeast from Mammoth Pool Boat Ramp
Water Surface Elevation at 3,315 feet

Mammoth Pool Boat Launch Southeast from Mammoth Pool Boat Ramp
Water Surface Elevation at 3,194 feet